8-19-2016

Examining the Relationship of Emotional Intelligence, Trust, and Performance in Self-Directed, Professional Teams in a U.S. Private Wealth Services Work Environment

Dorothy O. Elder

Examining the Relationship of Emotional Intelligence, Trust, and Performance in Self- Directed, Professional Teams in a U.S. Private Wealth Services Work Environment

---

A Dissertation

Presented to

The Faculty of Lynchburg College

In Partial Fulfillment

of the Requirements for the Degree

Doctor of Education (Ed.D.)

---

by

D. Oscarlyn Elder, B.A., M.B.A.

May, 2016

Lynchburg College

Lynchburg, Virginia

APPROVAL OF THE DISSERTATION

This dissertation, Examining the Relationship of
Emotional Intelligence, Trust, and Performance
in Self- Directed, Professional Teams
in a U.S. Private Wealth Services Work Environment,
has been approved by the Ed.D. Faculty of Lynchburg College in partial fulfillment
of the requirements for the Ed.D. degree

Sally C. Selden

Bianca Sumutka

Joseph H. Turek

April 25, 2016 Date

DEDICATION

To my family

To my husband, Todd, who has loved me since we were teenagers and
has supported each academic and professional development endeavor.
To my daughter, Madeline, who has my heart completely—I hope one day you will appreciate
the years of hard work captured in these pages.
Always remember that achievement takes sacrifice and effort.
To my mother, who craved formal education, but instead dedicated her life's work to educating
and preparing five children to pursue their dreams. Her spirit celebrates with me.
To my father, who continues to model singular vision and sacrificial hard work.
To my siblings: Eric, Susan, SamiDail-*in heaven*, and Becky —You have always encouraged me
during the low points and celebrated the victories. It is time to celebrate!
To my extended family- You are entirely too plentiful to name;
you make my life much richer.
To my friends, who are family- You know who you are,
and I could not have made it through without your encouragement.

"I sustain myself with the love of family."

Maya Angelou

ACKNOWLEDGEMENTS

Completion of this milestone was not a solo effort. Many people were instrumental in guiding, supporting, and encouraging me during this journey.

With a grateful heart, I say thank you….

Dr. Sally C. Selden-Your intelligence, intensity, and kindness inspire me to be more. This project is reflective of your commitment to go "Above and Beyond". LC is blessed to have you as Dean of Academic Affairs.

The faculty of Lynchburg College's Ed.D. program-Your wisdom changed my life.

My dissertation committee- Thank you very much!

Marcia Alcorn, Tom Ronchetti, and Felicia Speetjens-Your direct support was instrumental and constant. Your efforts will always be remembered.

Dr. J. Van Bowen –You sparked a belief in me that I could be a "quant", even though I went on to major in Religion and Political Science; I was your statistics TA for three years. The mathematics foundation you helped me build made this dissertation possible. Please give my mom and sister a high five in heaven.

*Amazing educational professionals from Pre-K on…*Sadly, I cannot name you all, Your imprint on me is clear.

ABSTRACT

Sally C. Selden

This dissertation examines the relationship of team emotional intelligence, intra-team trust, and team performance in self-directed, professional teams in a Private Wealth Services work environment. A conceptual model linking team emotional intelligence-individual resource, intra-team trust, and team emotional intelligence-synergy to team performance is presented. The model is then evaluated using multiple analytical methods.

Team emotional intelligence-individual resource was measured using the Assessing Emotions Scale (Schutte et al., 1998). Through exploratory and confirmatory factor analyses, four factors emerged: Outlook, Emotional Utilization, Non-Verbal Awareness, and Emotional Awareness-Self. Intra-team trust and its components, cognitive and affective trust, were measured using McAllister (1995) scale. Team emotional intelligence was measured using five dimensions of the Group Emotional Intelligence Scale (Peterson, 2012). Team performance was measured using a stacked ranking based upon financial performance. Independent and control variable data were collected via a survey instrument.

The data analysis for the sample of twenty-nine in situ work teams included regression analyses and structural equation modeling. The findings support team emotional intelligence-individual resource factor-Emotional Utilization exhibiting a mediated relationship with team emotional intelligence-synergy factor-Creating Affirmative Environment. The relationship is partially mediated by intra-team trust component, affective trust. Cognitive trust is shown to have a strongly mediated relationship with team emotional intelligence-synergy factor-Creating Affirmative Environment. The relationship is strongly mediated by affective trust. Team emotional intelligence-synergy factor-Creating Affirmative Environment is shown to display a

direct relationship with team performance. As Creating Affirmative Environment increased, stacked ranking position improved. A SEM model evaluating the relationships is presented with χ^2 (2) = .47, p = .495 and fit indices, CFI = 1.0, RMSEA = .000, and SRMR = .019.

This is the first study to evaluate team emotional intelligence-individual resource and team emotional intelligence-synergy factors in a single model. The findings offer leaders the opportunity to design targeted interventions with a goal of improving team performance. While the findings are not generalizable due to the small sample size, the dissertation offers a guidepost for future research efforts in other industries.

TABLE OF CONTENTS

List of Tables and Figures

Tables

Figures

CHAPTER 1: INTRODUCTION OF THE STUDY

Teams have become a fundamental element in modern day work life (Druskat & Wolff, 2001a; Wolff, Druskat, Koman, & Messer, 2006). A simple Google search of the terms "work teams" and "performance" returns no less than 1.7 million items for review. The study of self-directed work teams with a goal of understanding high performance conditions has meaningful consequences for today's organizations as institutions are under pressure to increase performance and are experiencing change at accelerated rates (Kotter, 2012).

Unlike an industrial factory floor that is dominated by machinery — which can be taken apart, analyzed for improvements, and re-assembled — the professional services work team is comprised of humans. The introduction of a human factor brings with it great variation and the inclusion of factors that influence human behavior and performance. According to J. D. Mayer, Salovey, and Caruso (2000), emotion is considered a class of human mental functioning, and emotional intelligence is described as "something having to do with the intersection of emotion and cognition" (p. 84). Within the organizational environment, intra-team trust has been referred to as a "pervasive phenomenon" (McAllister, 1995, p. 25) that is the "extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another" (McAllister, 1995, p. 25). Emotional intelligence and intra-team trust, within academic and practical spheres, have been identified as factors influencing individual and team performance, (e.g., communication, creativity, effectiveness, and performance-including peer-assessed, self-reported, and supervisor/superior/teacher rated). Yet, much is unknown and undocumented about the relationship of team emotional intelligence and intra-team trust to team performance.

Emotional Intelligence

Emotional Intelligence of the Individual

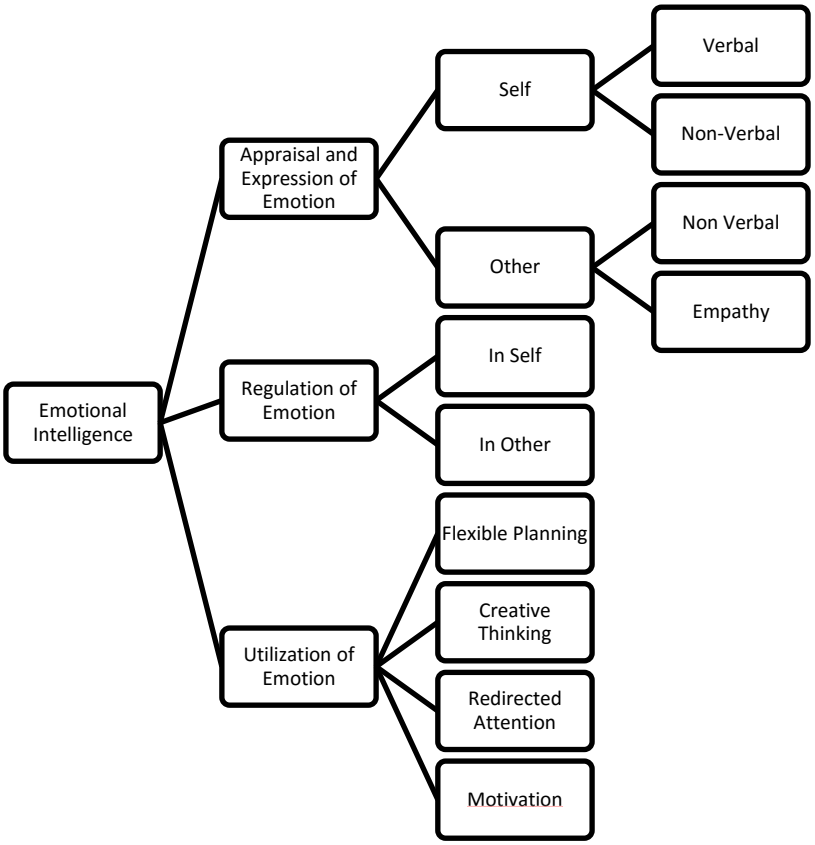
According to Bar-On (2006), the origin of emotional intelligence is found in the works of Charles Darwin in the late 19th century. However, emotional intelligence as a modern sphere of academic inquiry is fairly young as it emerged from the work of Mayer and Salovey in the 1990s (J. D. Mayer & Salovey, 1997; Salovey, Brackett, & Mayer, 2007; Salovey & Mayer, 1990).

The Mayer and Salovey 1990 model included three distinct branches that captured various components theorized to be critical elements of an ability-based derivative of social intelligence (Salovey & Mayer, 1990). The first branch of the model was defined as the ability of an individual, through verbal and non-verbal means, to assess and express self-emotions as well as the ability of an individual to assess non-verbal emotional cues of another and to generate an appropriate empathetic response. The second branch was described as the ability to regulate emotion within one's self as well as to regulate and/or affect the emotion of another. The third and final branch of the initial Mayer & Salovey model was described as the ability to use emotional skills, such as flexible planning, creative thinking, mood redirection attention, and motivating emotions, to assist in decision making, task completion or problem solving. An overarching theme for Salovey and Mayer was that each component of the model included emotional processing and that a basic level of competence in the skill/ability be present enough so that the individual exhibit "adequate, intelligent functioning" (Salovey & Mayer, 1990, p. 201).

Though Mayer and Salovey introduced enhancements to their original model (J. D. Mayer & Salovey, 1997), the core of the 1990 model, see Figure 1.1, was present in the 1997

conceptual framework and also appeared to have influenced the work of Goleman (1995, 1998). Therefore, the 1990 work is a critical and seminal work within the discipline.

Figure 1.1
Mayer and Salovey (1990) Conceptualization of Emotional Intelligence



Emotional Intelligence of the Team

Elfenbein (2006) described two different concepts of team emotional intelligence. The first, "individual resource", is determined by the finite resources brought to the team by members; the team's emotional intelligence is no greater than the "sum of the parts" (Elfenbein, 2006, p. 166). Throughout this document, this conceptualization is referred to as team emotional intelligence-individual resource (TEI-IR). The second conceptualization of team emotional

intelligence is identified as “Team EI” (Elfenbein, 2006, p. 167). This view of team emotional intelligence, which was reflected by Druskat and Wolff (2001b), anticipated that team emotional intelligence included intra-team interactions and dynamism that resulted in synergistic characteristics; it is referred to as team emotional intelligence-synergy (TEI-S) throughout this document. TEI-S has been typically viewed as process-oriented and was defined by Druskat and Wolff (2001b) as the ability of the team to develop emotionally competent norms in twelve different dimensions and on three levels: (a) individual, (b) group, and (c) cross-boundary, see Table 2.3.

Next, another critical element of team functioning is examined through a high-level exploration of trust.

Trust

Trust has been an area of intense academic interest for decades, though the critical studies highlighted in Chapter 2 emerged contemporaneously with seminal emotional intelligence research. R. C. Mayer, Davis, and Schoorman (1995) introduced a model of the trust process between two individuals in an organization. The multi-dimensional model approached trust from a relational, situational, and on-going process perspective and included not only the trustor’s propensity to trust, but also specific antecedents to risk-taking behavior (Schoorman, Mayer, & Davis, 2007).

McAllister (1995) proposed and tested a comprehensive theory regarding the formation of two distinct forms of inter-personal trust, cognitive and affective, in the work setting. According to McAllister, cognitive trust is a choice-driven process by the trustor related to the perceived level of competence, responsibility, reliability, and dependability of the trustee, and it precedes affective trust. Affective trust is a trusting behavior rooted in an emotional link

between trustor and trustee that involves a reciprocated level of care, where the trustor does not question behavioral motivation. McAllister found evidence that the two forms of trust are indeed distinct as did Webber (2008). He also found that a trustor's consequent behavior towards a peer was impacted by the presence of affective trust in the peer. McAllister examined the relationship of consequent behavior and the trustor's performance. McAllister's work is critical to the study as both cognitive and affective are included in the conceptual model. In the conceptual model trust is expected to influence behavior through the development of emotionally competent group norms reflective of team emotional intelligence-synergy (TEI-S), which will, in turn, influence behavior directly.

Team Emotional Intelligence, Trust, and the Connection to Performance

Research into team emotional intelligence, trust, and performance is in its infancy, and two published studies provide insight into how the relationship between these factors may be further explored. Barczak, Lassk, and Mulki (2010) examined the connections between emotional intelligence, trust, collaborative culture, and creativity within an undergraduate student population. From a methodological perspective, the researchers used a self-report scale to measure team emotional intelligence based upon the individual resource concept and used the scale developed by McAllister (1995) to measure intra-team trust. The major contribution of this work was that it tested a proposed relationship between team emotional intelligence, trust, and creativity, and the authors indicated that the study was the first to evaluate the linkages between emotional intelligence and trust.

Chang, Sy, and Choi (2012) conducted a study to better understand the connections between team emotional intelligence, leader emotional intelligence, trust, and performance. The study was methodologically stronger with a research design that provided for greater clarity of

constructs and proposed relationships within the regression analyses design than the Barczak et al. (2010) research. The work of Chang et al. (2012) provides more direction as to how research may evolve in relation to team emotional intelligence (TEI), trust, and performance than the work of Barczak et al. (2010).

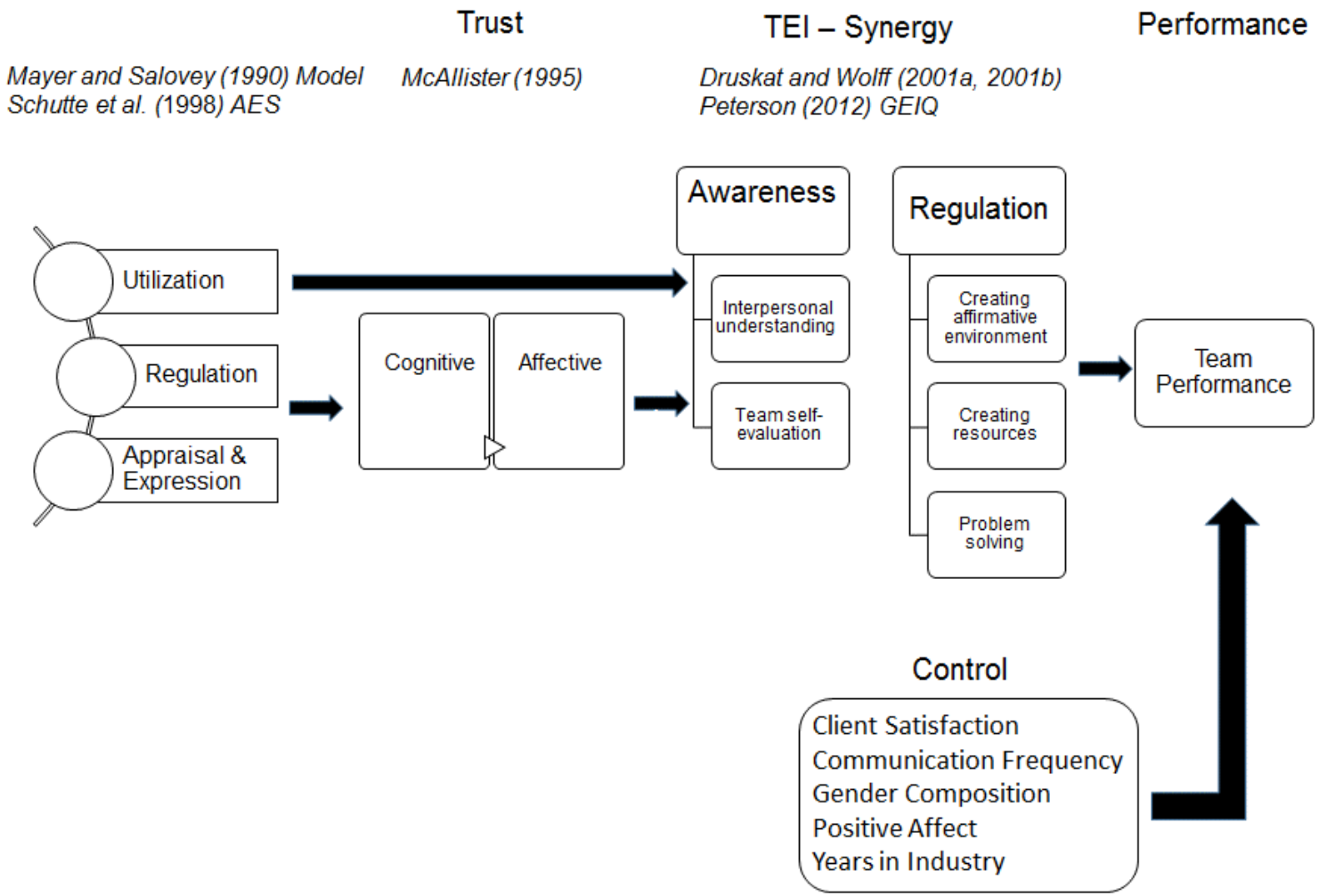
The study was conducted within a sample of work teams that were dominated by minority participants. Team emotional intelligence-individual resource (TEI-IR) was evaluated using a self-report measure, the Emotional Intelligence Scale (EIS) or Assessing Emotions Scale (AES). Intra-team trust was measured using a modified version of the McAllister (1995) scale. Team performance was provided by a self-report measure completed by team leaders.

Through a multi-step hierarchical regression analyses process, the researchers found that each dimension of TEI was a predictor of intra-team trust. The researchers also found that TEI was significant in predicting team performance, though the explanatory power was considerably stronger when each dimension of TEI was included in the analysis versus TEI being treated as a single construct. Chang et al. (2012) uncovered other significant findings in relation to TEI, leader EI, trust, and performance that, while intriguing, are not of direct importance to relationships under investigation in this study.

Conceptual Framework

The conceptual framework, see Figure 1.2, includes three independent constructs in a single model. Team emotional intelligence-individual resource (TEI-IR), which is based upon the Mayer and Salovey model (1990), is the first independent variable. It is theorized to include three primary factors: appraisal and expression of emotion, regulation of emotion, and utilization of emotion. The position in the model was based upon the work of Elfenbein (2006) and Jordan and Lawrence (2009) that presented team emotional intelligence as an input characteristic of a

Figure 1.2
Conceptual Model



team's functioning. Intra-team trust, as theorized and explored by McAllister (1995), is treated as a mediating variable between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S) based upon his findings. Team emotional intelligence-synergy (TEI-S) is the construct of emotionally competent group norms (ECGN) developed by Druskat and Wolff (2001b), Wolff et al. (2006), Druskat and Wolff (2008). Team emotional intelligence-synergy (TEI-S) is expected to be a result of team emotional intelligence-individual resource (TEI-IR) present in a team influenced by the mediating influence of Intra-team Trust (ITT) that facilitates the development of the emotionally competent group norms (ECGN), which ultimately is reflected in the level of team performance.

Statement of the Problem

While the theoretical understanding of team emotional intelligence has evolved in the past two decades, much is still left to understand and document regarding the relationship between team emotional intelligence, intra-team trust, and performance. This research was designed to fill gaps in the current empirical understanding of the relationship of team emotional intelligence, individual resource and synergy, and intra-team trust to team performance. To date, as noted by Chang et al. (2012), no study has examined TEI-IR and TEI-S and their relationship to performance in a single study. This is a major gap in current understanding.

Overall, the current academic research in this subject area presents multiple limitations. Much of the research was conducted within student samples, which may limit the ability to generalize to working adult populations. Published studies exploring the relationship between team emotional intelligence and performance have often utilized self-report measures for independent and dependent variable constructs, which may result in common method bias based upon a common rater (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Additionally, multiple

studies that were either published or referred to in the literature were not fully documented or disclosed, which limits the ability of researchers to build upon body of literature. Certain emotional intelligence scales require restrictive agreements for use by researchers or involve a fee to use; these obstacles also limit growth in understanding. This study addresses this gap by utilizing scales that were easily accessible and able to be disclosed in the public domain.

Purpose of the Research

The purpose of this study was to understand how, and to what degree, team emotional intelligence-individual resource (TEI-IR), team emotional intelligence-synergy (TEI-S), and intra-team trust (ITT) interact to influence team performance (TP) in a real world or in-situ work environment. The research examined the relationship of these variables within self-directed teams in a U.S. Private Wealth Services work environment.

Research Questions and Hypotheses

The study was designed to evaluate the following questions and hypotheses:

(1) Is team emotional intelligence-synergy (TEI-S) related to team performance (TP)?

(2) Are particular factors of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding team performance (TP)?

(3) Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrate predictive value in understanding team performance (TP)?

(4) Does intra-team trust (ITT) mediate the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S)?

- H_{4a}: Intra-team trust (ITT) mediates the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S).
- H_{4b}: Intra-team trust (ITT) will be positively related to team emotional intelligence-synergy (TEI-S).
    - H_{4b1}: Cognitive trust (CT) will be positively related to team emotional intelligence-synergy (TEI-S).
    - H_{4b2}: Affective trust (AT) will be positively related to team emotional intelligence-synergy (TEI-S).
    - H_{4b3}: Affective trust (AT) will be more strongly associated with team emotional intelligence-synergy (TEI-S) than cognitive trust (CT).

Significance of the Study

This study was the first to evaluate empirically TEI-IR and TEI-S in a single study within a unified conceptual framework. Furthermore, few studies with fully published data have been conducted using team referent emotional intelligence measures. The study was also the first to examine the proposed mediating role of intra-team trust between TEI-IR and TEI-S, thereby filling another critical gap in understanding how TEI-IR and TEI-S may relate to one another. The study was conducted in a live work environment with teams versus a student population and therefore increased the understanding of professional work teams. The study used an objective measure of performance versus a self-report measure, thereby limiting common rater effects that may have been present in prior studies (Podsakoff et al., 2003). Additionally, unlike prior work

in the discipline, the study included a positive affect measure to address potential common rater effects within the predictor variables (Podsakoff et al., 2003).

From a practical perspective, the results of this study are expected to increase the opportunity for specific intervention actions inclusive of more directed coaching of self-directed teams in the U.S. Private Wealth Service environment. Specific and targeted coaching based upon empirical testing would be expected to have a more meaningful impact on team performance than generalized and generic coaching. Furthermore, coaching informed by the study's results would be expected to exhibit more effectiveness than training that targets only task behavior. Study-informed coaching would include building the emotional competence of the team as expressed through exhibition of ECGN, which form the basis of task-driven behavior that directly impacts performance (Wolff et al., 2006). Task-oriented training would be expected to treat a symptom of team dysfunction but not the underlying cause of dysfunction (Wolff et al., 2006).

Summary of Methodology

The study was a cross-sectional, non-experimental, quantitative research study. Independent variable data collection occurred via a survey administered directly to participants in the work environment via SurveyMonkey, an online survey application, with proper approvals from the organization and the Internal Review Board. The dependent variable constructs were collected via an objective measure of performance through an internal, organizational management report.

Approximately 86 teams were eligible to participate. Teams consisted of up to 6 professionals and were grouped according to the professional advisor, who typically behaved as an unofficial team lead. Team specialists typically worked with more than one professional

advisor and were requested to take the TEI-S and the team-level control variable portions of the survey for up to five professional advisor teams with which they worked.

Team-level variables were created through averaging individual team member responses and creating index variables at the team level, where appropriate. Team emotional intelligence-individual resource (TEI-IR) was measured using the Schutte et al. (1998), self-report, 33-item Assessing Emotions Scale (AES). Team intra-team trust (ITT) was measured using the brief scale developed by McAllister (1995). Team emotional intelligence-synergy (TEI-S) consisted of five dimensions of ECGN: (a) interpersonal understanding, (b) team self-evaluation, (c) creating affirmative environment, (d) creating resources, and (e) problem solving (Druskat & Wolff, 2008), and was measured using those corresponding dimensions of the GEIQ developed by Peterson (2012). Team performance was measured via an internal management report that provided a stacked ranking for each professional advisor. Professional advisor stacked ranking was used as a proxy for team performance as the combined team effort was reflected in the results.

The data analysis process was a multi-step, iterative process. The analysis process began with basic preparatory steps and progressed to more complex statistical techniques. Primary level analysis included analysis of descriptive statistics for all questions and variables. Exploratory factor analysis and confirmatory factor analysis were conducted on the TEI-IR data to determine the number of factors present in the data set. Cronbach's alpha was conducted on the resulting TEI-IR factors, TEI-S dimensions, intra-team trust measures, and any control variables that were indexed. The research questions and hypotheses were evaluated using correlational analysis; multivariate, simultaneous, and sequential regression; and structural equation modeling.

Limitations

Research conducted within live work environments presents unique challenges and opportunities in research design and methodology that may give rise to study limitations (Vogt, 2007). A major limitation of this study is that it was focused on a narrow population of professionals within the U.S. Private Wealth Services work environment; therefore, the study is not generalizable beyond the specific population studied. The study did not fully address the construct of TEI-S, but instead examined five of the twelve theorized dimensions. Common source error was also another concern within the independent variable constructs and was addressed through the use of statistical techniques. Another limitation was the need of specialists to respond to multiple surveys given their participation on multiple teams. This may have resulted in lower participation rates than would normally have been experienced in most survey research.

Definition of Terms

Affective trust-A specific type of interpersonal trust based upon emotional connections and a reciprocated level of care between the trustor and trustee.

Antecedent behaviors-Behavior(s) identified as occurring before another behavior, event, or process.

Assessing emotions scale (AES)-scale developed by Schutte et al. (1998) to measure emotional intelligence of an individual based primarily upon the Salovey and Mayer (1990) models of emotional intelligence. Used in this study to measure TEI-IR.

Brokerage investment professional-Considered a specialist on the private wealth team who is responsible for developing and implementing investment strategies for clients on the

brokerage investment platform and for generation of new business revenue production from investments.

Cognitive trust-A specific type of interpersonal trust in the professional setting that is based upon assessments of competence, responsibility, reliability and dependability (McAllister, 1995).

Consequent behavior-Behavior(s) identified as occurring after another behavior, event, or process.

Credit professional-Considered a specialist on the private wealth team who is responsible for working with the client professional in structuring credit oriented solutions for clients. Assists in production of new business revenue.

Emotion-"Short-term feeling states including happiness, anger, or fear, that mix varying amount of pleasantness-unpleasantness and arousal-calm, among other sensations" (J. D. Mayer & Salovey, 1997, p. 23); "organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems" (Salovey & Mayer, 1990, p. 186).

Emotional intelligence-"This intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to reflectively regulate emotions in ways that promote emotional and intellectual growth" (J. D. Mayer & Salovey, 1997, p. 23).

Emotionally competent norms/ Emotionally competent group norms (ECGN)-"The attitudes and behaviors that eventually become habits that support behaviors for building trust, group identity, and group efficacy" (Druskat & Wolff, 2001a, p. 82); "norms or informal rules

that support actions and behaviors that acknowledge, recognize, monitor, discriminate, and attend to emotion and that respond constructively to emotional challenge" (Wolff et al., 2006, p. 224).

Fiduciary investment professional-Considered a specialist on the private wealth team who is responsible for developing and implementing investment strategies for clients on the fiduciary investment platform and for assisting in new business revenue production.

Financial planning professional-Considered a specialist on the private wealth team who is responsible for delivering financial planning solutions and advice to clients.

Group Emotional Intelligence (GEI)-Name given to team emotional intelligence by Druskat and Wolff (2001).

Group Emotional Intelligence Scale (GEIQ)-developed by Hamme (2004) and later refined by her (Peterson, 2012). Scale is based upon the conceptualization of team emotional intelligence as developed by Druskat and Wolff (2001b, 2008). Used in the study to measure TEI-S.

Intra-team trust-"Extent to which a person is confident in, and willing to act on the basis of, the words, actions, and decisions of another" (McAllister, 1995, p. 25).

Professional advisor-Considered a generalist on the private wealth team and is the team member with primary responsibility for coordinating client relationships and business development activities.

Self-directed work team-A team that generally self-determines work strategies and behaviors to achieve performance objectives without direct and constant supervision by a direct manager (Cohen & Bailey, 1997).

SurveyMonkey-Online survey software application.

Team-"A small number of people with complementary skills who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable" (Katzenbach & Smith, 1993, p. LOC 845).

Team emotional intelligence-individual resource (TEI-IR)-A view of team emotional intelligence (TEI) that assumes a team comprised of individuals has a finite and specific amount of emotional intelligence as defined by the abilities brought to the team by individuals.

Team emotional intelligence-synergy (TEI-S)-This conceptualization of team emotional intelligence is a process-oriented dynamic of team members' interactions focused on synergistic display and use of emotional intelligence versus an ability that a member possessed and that may not be fully or even partially realized within the team dynamic.

Trait-"Any fairly consistent behavior or set of behaviors an individual tends to exhibit such as enjoying being with people, or being conscientious, or trying new things" (J. D. Mayer & Salovey, 1997, p. 23).

Trust and estate professional-Considered a specialist on the private wealth team who is responsible for developing and advising clients in complex estate issues and in administrating complex trust agreements. Responsible for assisting with new business revenue production.

Trustor-person engaging in trusting behaviors focused on another person.

Trustee-target of trustor's trusting behaviors.

WEIP-6-self-report emotional intelligence measure of individuals in teams.

Summary

This chapter has provided an overview of the key elements of the dissertation. Emotional intelligence is a critical component of the study. The conceptualization of emotional intelligence at the individual level, with a focus on the work of Salovey and Mayer (1990) and their original

three branch emotional intelligence model, was presented. Next, the concept of team emotional intelligence–synergy (TEI-S), was introduced and explored briefly. Intra-team trust was briefly highlighted with a review of the work of McAllister (1995). These three concepts were connected in the section entitled "Team Emotional Intelligence, Trust, and the Connection to Performance". Specifically, the work of Chang et al. (2012) was highlighted as being critical to the development of this study.

From an understanding of the research reviewed early in the chapter, a conceptual model was proposed. The model examines predictors and antecedents of team performance. The model depicts team emotional intelligence-individual resource as a predictor of team emotional intelligence-synergy with intra-team trust mediating the relationship between the two. The final component of the model is team emotional intelligence-synergy as a predictor of team performance. In addition to the conceptual model, four research questions and five hypotheses were proposed for the investigation. The significance of the study was highlighted as well with a focus on both potential contributions to academic understanding and to private wealth work environments.

Next, the methodology was explained with a description of measures and techniques used to create study variables and constructs as well as steps taken to analyze the data after aggregation to the team level. Limitations of the study were also noted with a focus on the narrow sample from which the data were drawn. Finally, a list of critical terms to the study were defined for the reader.

Now that an early foundation for understanding the study has been established, the chapters that follow will provide greater detail and explanation of the study. Chapter 2 will provide a thorough review of the literature with a deeper exploration of the topics noted

previously in this summary. Chapter 3 will highlight the methodology that was employed in the study with substantial review of the survey instrument and resulting analysis that was undertaken to create team-level constructs. Chapter 4 details the data analysis techniques that were employed to evaluate the research questions and hypotheses. Finally, Chapter 5 explores findings and implications from this study and offers recommendations for future areas of study.

CHAPTER 2: REVIEW OF LITERATURE

The purpose of this chapter is to provide a review of the literature in relation to emotional intelligence, trust, and performance, primarily within a team environment. Teams have become a defining and elemental building block of the modern workplace (Blanchard, Randolph, & Grazier, 2007; Katzenbach & Smith, 1993), yet they are anything but simple (Druskat & Wolff, 2001b; Goleman, Boyatzis, & McKee, 2002). As teams have become more prevalent in the workplace, so too has the desire by academics and practitioners alike to understand the inner life of work groups and to unlock the code to improving team performance. The study of teams in the current academic literature is extensive and draws from multiple disciplines, including business management, communication, counseling, education, human resources management, information systems, psychology, and sociology. This body of literature is still evolving, and researchers are seeking explanations for how interactions between and among individuals, of whom a team is comprised, form the basis of and/or facilitate team performance.

This chapter is divided into three major sections. The first section provides a comprehensive overview of emotional intelligence. The concept of emotional intelligence at the individual level is reviewed with a focus on models published by Mayer and Salovey (Salovey et al., 2007), Goleman (1995, 1998), and Bar-On (2006). For the purposes of the research, the Mayer and Salovey models are the most important in relation to TEI-IR and are highlighted first in this sub-section. The examination of emotional intelligence continues with a review of the two primary conceptualizations of team emotional intelligence. The presentation of the concept of emotionally competent group norms as theorized by Druskat and Wolff (2001a) is summarized in this portion of the chapter as part of a defining of TEI-S. Both concepts of team emotional intelligence, TEI-IR and TEI-S, as reviewed in the literature are represented in the

conceptual model. The final sub-section outlines the literature regarding team emotional intelligence and its relationship to team performance.

The second major section of the chapter contains an exploration of trust. This section begins with a review of the seminal work of R. C. Mayer et al. (1995) who proposed a theory regarding the processes through which trust is formed on an interpersonal basis in an organizational setting. Next, another seminal piece in trust literature is reviewed. McAllister (1995) proposed and tested a comprehensive theory regarding the formation of two distinct forms of trust: cognitive and affective. His work is critical to this study and in the studies highlighted in the third and final section of the literature review. McAllister's influence on the study of trust is further demonstrated in an examination of Webber (2008). Her work is confirmatory of McAllister's findings of two distinct trust concepts: cognitive and affective.

The third and last section of the literature review is comprised of an examination of team emotional intelligence from an individual resource perspective, intra-team trust, and the relationship of both variables to team performance. Two studies, one authored by Barczak et al. (2010) and another by Chang et al. (2012), are reviewed in detail with Chang et al. (2012) proving to be the most important in shaping the study.

The search process for this literature review began with an onesearch database search through the Lynchburg College library. Search terms included the following: (a) "emotional intelligence and team leadership", (b) "EI in Teams", (c) "Druskat", (d) "Linking emotional intelligence and performance at work", (e) "virtual teams", (f) "teams in the workplace", (g) "trust and teams", and (h) "hybrid teams". Additionally, Google scholar searches were conducted on the search terms "emotional intelligence", "team performance", "emotional intelligence and team performance", "affective trust", and "McAllister". Through these

searches, key EI scholars were identified, including Drusakt and Wolff. Google searches were conducted and websites were located for Dr. Vanessa U. Druskat, Dr. Steven B. Wolff, Dr. Christina H. Peterson, and Dr. Peter Troth. Through this search, the web site for the Emotional Intelligence Consortium, www.eiconsortium.org, was located. This site proved to be invaluable in providing an extensive alphabetical list of published scholarly articles and a chronological list of dissertation work related to Emotional Intelligence.

Once a primary listing of relevant articles and books was identified and reviewed for both EI and Trust, a manual search of reference lists for relevant refereed articles was conducted, and noted articles were reviewed for inclusion in this chapter. Notably, the work of R. C. Mayer et al. (1995) was located in this manner. Given the volume of emotional intelligence and trust in scholarly literature, it was determined to focus primarily on research related to the concepts of emotional intelligence, emotional intelligence in the team environment, trust in the team environment, and linkages of these concepts to performance. Next, a more detailed examination of each area of interest is presented, beginning with emotional intelligence.

Emotional Intelligence

This section includes a comprehensive overview of emotional intelligence. As part of the review, emotional intelligence, as conceptualized at the individual level, will be highlighted. Team emotional intelligence will then be discussed with specific attention to two different conceptualizations: individual resource and synergy. Finally, the relationship between team emotional intelligence and team performance will be explored.

Conceptualization of Emotional Intelligence on an Individual Level of Analysis

Emotional intelligence (EI) as a field of modern study partially traces its roots to the work of multiple researchers who sought to understand the dynamics of the interaction of

emotive and cognitive processes, and also to the rise of academics, such as Gardner, who championed a broad, multiple abilities-based conceptualization of intelligence (J. D. Mayer & Salovey, 1997; Salovey et al., 2007). The concept of EI became popularized with the publication of *Emotional Intelligence* by Daniel Goleman in 1995 (Salovey et al., 2007). While the body of research has grown noticeably since the early 1990s as demonstrated in the reference listings by the Emotional Intelligence Consortium (Consortium, 2014), the field is still a relative newcomer when compared to the classical study of intelligence quotient (IQ), which dates to early in the twentieth century (Salovey et al., 2007).

Three conceptualizations of emotional intelligence are generally recognized as the foundational models of the discipline (Salovey et al., 2007). The Mayer and Salovey models, the first published EI models, were pure ability-based models (J. D. Mayer & Salovey, 1997; Salovey et al., 2007; Salovey & Mayer, 1990). This publication was followed by the work of Goleman (1995) and then Bar-On in 1997, who each proposed models described by Mayer and Salovey as "mixed models" or models that included personality trait and competency-based elements (J. D. Mayer & Salovey, 1997; Salovey et al., 2007, p. ii). Given the critical nature of the Mayer & Salovey models to the understanding and measurement of emotional intelligence, their development will be highlighted first. Then, a review of Goleman's models will be presented and the section will conclude with a brief exploration of the Bar-On conceptualization.

Mayer and Salovey models. Mayer and Salovey's first exploration of emotional intelligence was published in the 1990 scholarly article "Emotional Intelligence". In it, the duo defined emotions as "organized responses, crossing the boundaries of many psychological subsystems, including the physiological, cognitive, motivational, and experiential systems"

(Salovey & Mayer, 1990, p. 186). The pair also defined intelligence as "a broad set of abilities" (Salovey & Mayer, 1990, p. 187).

Based upon scholarly work from multiple fields of investigation, Mayer & Salovey went on to propose a three branch model of emotional intelligence wherein EI is "a subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (Salovey & Mayer, 1990, p. 189). The first branch of the model was defined as the ability of an individual, through verbal and non-verbal means, to assess and express the emotions of self as well as the ability to use non-verbal cues to assess the emotions of another individual and to generate an appropriate empathetic response. The second branch was described as the ability to regulate emotion within one's self as well as to regulate and/or affect the emotion of another. The third and final branch of the initial Mayer & Salovey model was described as the ability to use emotional skills, such as flexible planning, creative thinking, mood redirection attention, and motivating emotions, to assist in decision making, task completion, or problem solving. An overarching theme for Salovey and Mayer was that each component of the model included emotional processing and that a basic level of competence in the skill/ability be present enough so that the individual exhibit "adequate, intelligent functioning" (Salovey & Mayer, 1990, p. 201). Figure 1.1 presents graphically the original Mayer and Salovey EI model.

Mayer and Salovey (1997) further refined their definition and model of emotional intelligence in "What is Emotional Intelligence?". Mayer and Salovey suggested that any definition of emotional intelligence must contain distinct reference to the individual elements of emotion and intelligence and that emotional intelligence was not trait-based, but instead only

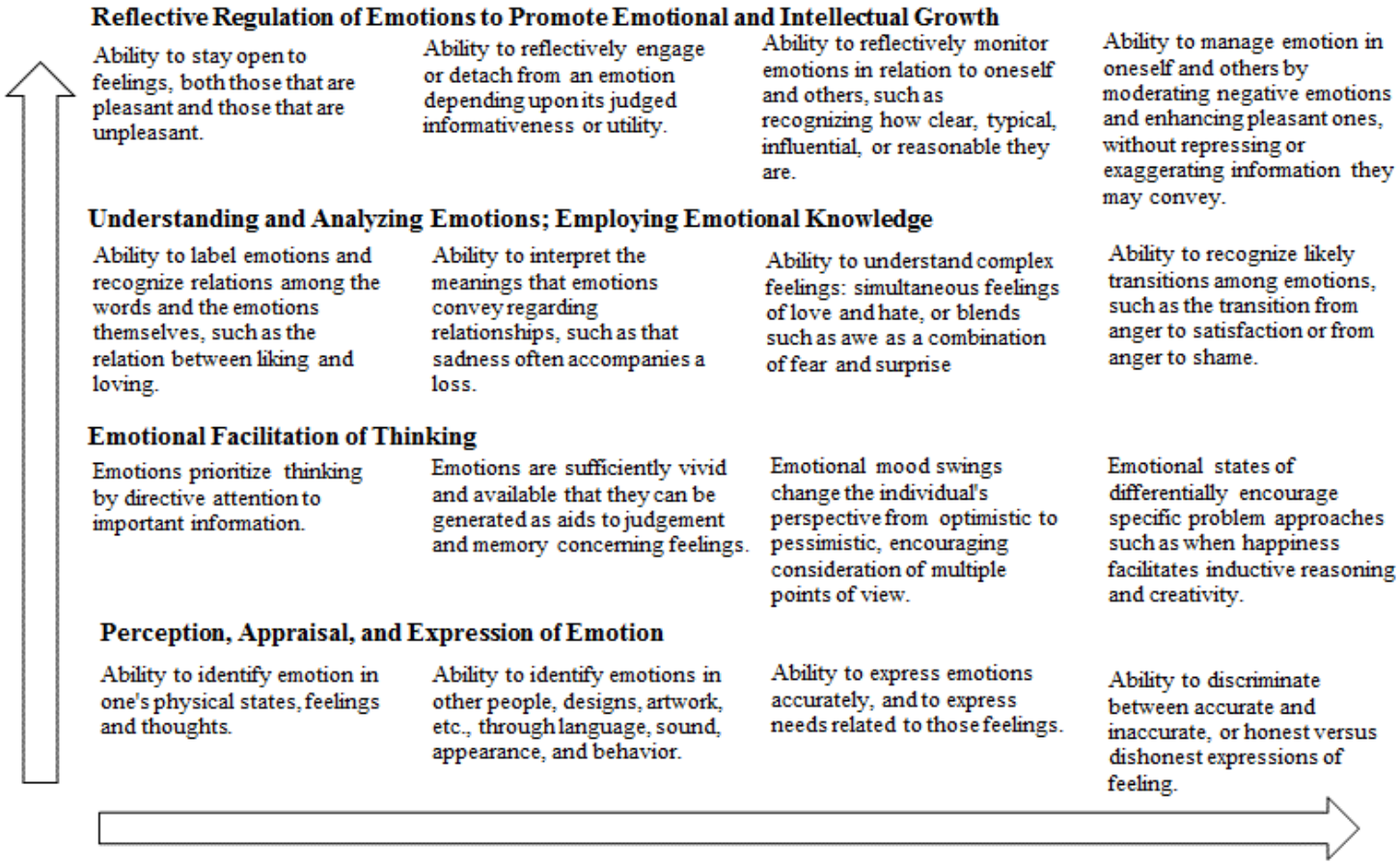
mental ability-based. The pair proposed in this second major publication the following definition of emotional intelligence:

> Emotional intelligence involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge; and the ability to regulate emotions to promote emotional and intellectual growth. (J. D. Mayer & Salovey, 1997, p. 10)

In addition to the preceding definition, Mayer and Salovey (1997) provided a framework consisting of a four by four matrix of emotional intelligence abilities. The four branches are Perception, Appraisal, and Expression of Emotion; Emotional Facilitation of Thinking; Understanding and Analyzing Emotions- Employing Emotional Knowledge; and, Reflective Regulation of Emotions to Promote Emotional and Intellectual Growth. The matrix, see Figure 2.1, was constructed so that progression upward was indicative of more complex psychological and cognitive processes. Abilities on the left of the matrix were typical in early development with movement to the right indicative of abilities typically realized later in development. Mayer and Salovey also defined the concepts of emotional achievement as, "the learning a person has attained about emotion or emotion-related information," (1997, p. 15) and emotional competence, "when one has reached a required level of achievement" (1997, p. 15).

Mayer and Salovey are the seminal researchers in the field of emotional intelligence. Their work has informed much of the research that has been conducted during the past twenty-five years and their influence will be evident in the review of the Goleman and Bar-On models of emotional intelligence.

Figure 2.1
Mayer and Salovey (1997) Revised Emotional Intelligence Model



Source: From *Emotional Development and Emotional Intelligence* by Peter Salovey and David Sluyter, P. 11. Copyright © 1997 by Peter Salovey and David Sluyter. Reprinted by permission of Basic Books, a member of Perseus Books, L.L.C.

Goleman. Daniel Goleman, a science reporter for *The New York Times*, introduced the general public to the concept of emotional intelligence through his 1995 publication Emotional Intelligence. In his initial publication, Goleman synthesized the work of multiple researchers and proposed a five element EI model that was inclusive of both abilities as well as trait characteristics. The first component, which draws heavily from the work of Mayer and Salovey, is self-awareness that is reflexive in nature and that he referred to as incorporating "mindfulness" (1995, p. LOC 6299). The second element of the model is the ability of an individual to manage emotions in a manner that is in balance with the situation and overall appropriate to the context. The ability of an individual to motivate through internal resources is the next component. The fourth element of the model is the ability of an individual to understand, through verbal and non-verbal cues, the emotional state of another person in an exercise of empathy. The final element of the Goleman model is the ability to manage the emotions of other people within the bounds of relationship. In his follow-up publication, Working with Intelligence, Goleman (1998) provided additional insight into his model by providing specific competencies required for each element of his five-factor model. Table 2.1 highlights each factor and corresponding competencies.

Goleman's work is important because it brings the work of emotional intelligence out of academia and into the workplace.

Bar-On. From a brief review of the Goleman models, next the work of Bar-On is highlighted. According to Bar-On (2006), "emotional-social intelligence is a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands" (p. 14). Bar-On's model of emotional intelligence is comprised of five areas, including: (a) intrapersonal, (b) interpersonal, (c) stress management, (d) adaptability,

and (e) general mood. Specific competencies and skills as summarized in Table 2.2 have been developed to further define each element of the five areas.

Table 2.1
Goleman's Five Factor Model

***Factor*- Competencies**		
SELF-BASED; INTERNAL		
Self-awareness		
Emotional awareness	Accurate self-assessment	Self-confidence
Self-regulation		
Self-control	Conscientiousness	Innovation
Trustworthiness	Adaptability	
Motivation		
Achievement drive	Commitment	Initiative and optimism
OTHERS-BASED; EXTERNAL		
Empathy		
Understanding others	Developing others	Political awareness
Service orientation	Leveraging diversity	
Social Skills		
Element 1: Managing emotions of others		
Influence	Conflict management	Leadership
Communication		
Element 2: Social effectiveness		
Building bonds	Collaboration and cooperation	Team capabilities

The Emotional Intelligence of Teams

A natural extension of individual- level models of emotional intelligence to the team unit of analysis occurred early in the 21st century and was driven in part by the work of Druskat and Wolff (2001a). Two concepts of team emotional intelligence (TEI) emerged in the literature and were described by Elfenbein (2006). Researchers of team emotional intelligence have tended to focus research efforts on a single concept of team emotional intelligence versus employing both conceptualizations in research efforts.

Table 2.2
Bar-On (2006) Emotional Intelligence Model, p. 23

Area	**Competency and skills**
Interpersonal	***Self-awareness and self-expression:***
Self-regard	To accurately perceive, understand and accept oneself
Emotional self-awareness	To be aware of and understand one's emotions
Assertiveness	To effectively and constructively express one's emotions and oneself
Independence	To be self-reliant and free of emotional dependency on others.
Self-actualization	To strive to achieve personal goals and actualize one's potential
Interpersonal	***Social awareness and interpersonal relationship:***
Empathy	To be aware of and understand how others feel
Social responsibility	To identify with one's social group and cooperate with others
Interpersonal relationship	To establish mutually satisfying relationships and relate well with others
Stress management	***Emotional management and regulation:***
Stress tolerance	To effectively and constructively manage emotions
Impulse control	To effectively and constructively control emotions
Adaptability	***Change management:***
Reality-testing	To objectively validate one's feelings and thinking with external reality
Flexibility	To adapt and adjust one's feelings and thinking to new situations
Problem-solving	To effectively solve problems of a personal and interpersonal nature
General mood	***Self-motivation:***
Optimism	To be positive and look at the brighter side of life
Happiness	To feel content with oneself, others, and life in general

Concept 1: individual resource. Conceptualization one, team emotional intelligence-individual resource (TEI-IR), is described by Elfenbein (2006) as the understanding of the emotional intelligence abilities that individual team members bring to the team experience. This view assumes that the team, comprised of individuals, has a finite and specific amount of emotional intelligence as defined by the abilities brought to the team by individual participants. In this conceptualization, individual member EI is based upon one of the models discussed previously, such as the Mayer and Salovey model, and is measured with a corresponding measurement instrument. The individual member scores are aggregated and averaged to reflect a TEI-IR value. Elfenbein (2006) described this view as a "sum of the parts" perspective. This approach, as operationalized in research, provides for focus on the minimum, maximum,

average, and standard deviation of team members' emotional intelligence scores. Elfenbein (2006) described further that aggregating data through a team average calculation, composed of scores at the individual level, is the most common approach to understanding team-level psychological experiences (2006, p. 170). Jordan and Lawrence (2009) proposed that team emotional intelligence behaves as an input element into team performance based upon a team effectiveness framework developed by Tannenbaum, Beard, and Salas (1992), as cited by Jordan and Lawrence (2009), that is reliant upon team input characteristics that are measured at the individual team member level and aggregated to reflect team measures.

Concept 2: synergy. Elfenbein (2006) described a second conceptualization of team emotional intelligence, "Team EI" (p. 167), or as referred to in the study as team emotional intelligence-synergy (TEI-S), which assumes that the measure of emotional intelligence within the team setting is impacted by the interplay and dynamics of the intra-team interactions and that the corresponding result to TEI is not simply additive as theorized in the Individual Resource conceptualization, but instead exhibits synergistic characteristics (Elfenbein, 2006). This conceptualization of team emotional intelligence is a process-oriented dynamic of team members' interactions, focused on display and use of emotional intelligence versus an ability that a member possessed which may not be fully or even partially realized within the team dynamic.

Druskat and Wolff (2001b) developed a comprehensive synergistic view of team emotional intelligence entitled group emotional intelligence (GEI); they defined GEI "as the ability of a group to generate a shared set of norms that manage the emotional process in a way that builds trust, group identity, and group efficacy" (2001b, p. LOC 1954 of 4962). In the Socio-Emotional Theory of Group Effectiveness, Druskat and Wolff postulate that norms facilitate emotion response and regulation as well as emotion awareness functions for the team

on three levels: (a) individuals, (b) team, and (c) across groups, see Table 2.3. For Druskat and Wolff, the ability of a group or team to manage positive and negative emotions proactively in an effort to exploit the positive potential within the team context is viewed as a fundamental factor influencing team effectiveness. They theorize that a group's execution of emotionally competent group norms influences the development of social capital inclusive of elements, such as intra-team trust, group identity, group efficacy, and network connections (Druskat & Wolff, 2008). Social capital influences the emergence of group task-oriented processes that are directly related to team effectiveness (Druskat & Wolff, 2008; Wolff et al., 2006).

Goleman, Boyatzis, and McKee (2002), in an abbreviated multi-case study approach, described team emotional intelligence as the "emotional reality and norms" of a team (p. 56); they further described team emotional intelligence as a team possessing and practicing four primary capabilities. The demonstration of self-awareness is described as having a sense of the mood of the team, in aggregate, as well as the individuals comprising the team, coupled with expressions of empathy, and the creation of team norms supportive of healthy team dynamics. Self-management is defined as the development and practice of team norms that are demonstrative of the team's core values and mission that result in the team not needing the physical presence of a leader to move forward. Social awareness and relationship management capabilities are rooted in a team-level shared empathy that understands critical performance connections to other teams within the organization and seeks to maximize the positive outcomes for the team, other organizational teams and the organization. Goleman et al. (2002) posited that these skills are exercised at both the individual and team levels and that the demonstration of these skills occurs progressively within the team environment and builds upon prior experience and demonstration of capability.

Table 2.3
Group Emotional Intelligence Norms: Adapted from Druskat and Wolff's (2001a, 2001b; 2008)

	Awareness	**Regulation/Management**
Individual-within team	• Perspective taking (2001)-team members genuinely work in the open to understand differing perspectives within the team • **Interpersonal understanding-**awareness within the team of the emotional state and emotional triggers of individual members	• **Confronting members**- who break norms-ability to address appropriately, constructively, and creatively the behavior of a member who violates a group norm • **Caring orientation**-"displaying positive regard, appreciation, and respect for group members through behavior such as support, validation, and compassion" (Druskat & Wolff, 2001a, p. 84)
Group-team level	• **Team self-evaluation** – deliberate awareness action by team to understand "strengths, needs, preferences, and resources" of the team as well as "evaluation of routines or habits that may be comprising team effectiveness" (Wolff et al., 2006, p. 230) • **Seeking feedback** (2001) – Actively seek feedback from entities and individuals outside of the team	• **Creating resources for working with emotion**- resources may include a common vocabulary, a particular process designed to uncover and acknowledge and make public negative emotions, or a physical exercise that fulfills the purpose of facilitating regulation of emotion • **Creating an affirmative/optimistic environment**- consistent optimistic and positive mindset of team • **Proactive problem solving**- a team exhibiting consistent behavior of being able to proactively tackle difficult situations even those that may not appear to be within direct control of the team
Cross-boundary-team to outside entities	• **Organizational awareness/understanding**-intentional sensitivity to and drive to understand perspectives and behaviors of influential individuals and groups outside of the team, but internal to the organization. • **Intergroup awareness** (2001)-sensitivity to needs of other groups within the organization.	• **Building external relationships**- involves the use of assessments gained from organizational understanding and results in positive emotional behavior towards those individuals and groups that may influence the team in achieving its goals.

Overall, the two major categories of team emotional intelligence models are reflective of two different ways of conceptualizing and thinking about team dynamics and interactions. The first

category, TEI-IR, approaches team emotional intelligence from the perspective of an input characteristic and assumes that the team-level factor is a reflection of the individual emotional intelligence resources brought to the team (Elfenbein, 2006; Jordan & Lawrence, 2009). The second category, TEI-S, approaches team emotional intelligence from the perspective of team interactions and dynamics shaping the development of TEI through the negation and creation of team operating norms, which may be reflective of resources beyond what team members possess in isolation (Druskat & Wolff, 2001a, 2001b, 2008; Elfenbein, 2006; Goleman et al., 2002; Wolff et al., 2006). In the past, researchers have tended to focus studies on evaluating TEI through measurement of one of the constructs of TEI instead of evaluating both. This is a notable gap in the research literature and does not reflect the analysis of Elfenbein (2006), who suggested that the two approaches are complementary and not mutually exclusive.

Investigating Self-Reported TEI and Team Performance

Next, the relationship between self-reported TEI and team performance is examined. One of the earliest published attempts to link TEI to team performance was authored by Jordan and Troth (2004). The study examined 350 college students distributed amongst 108 randomly created small teams comprised of an average 3.2 members. Emotional intelligence was assessed through the WEIP-6, which aligns with the J. D. Mayer and Salovey (1997) model of emotional intelligence; scores were averaged for a team-level EI metric. Performance was assessed based upon individual and team results on a survival scenario exercise, which took approximately 15 minutes to complete.

A correlational analysis among all the variables was conducted at individual and team levels. Overall individual performance on the survival scenario task was found to not have a meaningful or significant correlation to emotional intelligence as measured by the WEIP-6. This

result was anticipated as the exercise, when completed in solitude, was expected to be a purely cognitive intelligence exercise. The more interesting results were found in the analysis of the team data. As anticipated, teams meaningfully and significantly outperformed individuals on the assigned survival scenario task. Team performance was positively correlated to team emotional intelligence, $r(106) = .24$, $p < .05$. The construct ability to deal with own emotions of the WEIP-6 displayed the strongest correlation of any variables under consideration, $r(106) = .26$, $p < .01$.

In the same study, the authors completed a secondary analysis using regression to explore the relationship of the WEIP-6 subscales from *ability to deal with own emotions* scale to team performance. Two elements of the scale were found to be significant. Management of own emotions displayed a significant regression coefficient, $\beta = .31$, $p < .01$, whereas discussion of own emotions resulted in significant negative regression coefficient, $\beta = -.20$, $p < .05$. The overall model found that the components of team emotional intelligence were significant in predicting team performance, $R^2 = .13$, $F(3, 104) = 4.97$, $p < .01$. Thus, the data from this study suggested that the overall ability of a team brought together for an extremely short-term task to manage its emotions is an important predictor of team performance, but that in such a short-term task team the discussion of the team's emotions displayed negative effects on team performance (Jordan & Troth, 2004).

This work of Jordan and Troth (2004) is significant because it is one of the few published studies to attempt to demonstrate quantitatively the relationship of team emotional intelligence, as indicated in a self-report measure, to team performance. This study provides preliminary support for the views of Druskat and Wolff (2001a) that teams with greater emotional intelligence will perform better than teams with lower emotional intelligence (Jordan & Troth, 2004). That said, given the sample of undergraduate students and randomly assigned, small

teams designed for one extremely short-term task, it lacks generalizability to cross-functional, professional teams that work together for extended periods of time (Jordan & Troth, 2004). Additionally, the team-level measure of performance on the survival scenario task may have been impacted by individuals having completed the task before in the individual data collection round. Even with these limitations, the study is critical in helping to build an empirical basis for theoretical assertions made by academics writing about team emotional intelligence.

Wolff et al. (2006) discussed two of their studies designed to test their theory of group emotional intelligence (GEI) through emotionally competent group norms (ECGNs). The first study involved 382 full-time, MBA students in 48 groups. Six ECGN (interpersonal understanding, confronting members, team self-evaluation, proactive problem solving, organizational understanding, and building external relationships) were evaluated in relationship to team effectiveness. The ECGNs were evaluated utilizing a survey questionnaire and team performance was measured by an instructor at two measurement points: one and six months post survey administration. Limited data were provided in the summary of the correlational study. According to the authors, each ECGN studied, except for confronting members, was positively and moderately correlated with team effectiveness at time 1 or one month after the surveys were completed with the range of $r = .36$ for team self-evaluation and $r = .56$ for organizational understanding. At measurement time two, four ECGNs, (interpersonal understanding, proactive problem solving, organizational understanding and building external relationships) were found to be moderately positively correlated with team effectiveness. Overall, the results appeared to support a moderate positive relationship between the ECGN's under consideration and team performance, which means that understanding ECGNs is important in deconstructing team

performance. That said, the lack of disclosure results in a lack of confidence in drawing firm and substantiated conclusions.

The second study highlighted 119 teams in six organizations in diverse industries in the U.S. mid-west. Teams were large with an average of 11.95 members. ECGNs were measured utilizing the same instrument as the first study. The same ECGNs evaluated in study one were evaluated with the exception of building relationships, which was not considered in this study though no rationale is given for its exclusion. Structural equation modeling was used to evaluate if the ECGNs under consideration resulted in social capital, a latent variable, which is a predictor of "trust/safety, group efficacy, and networks" (Wolff et al., 2006, p. 233) as well as team effectiveness. Team effectiveness was measured using the same rating scale as in study one, which was completed by a superior two levels higher in the organizational structure than the team under consideration, and through objective performance metrics, such as "percentages of team goals met" (Wolff et al., 2006, p. 233). As with study one, limited methodology, data, and results were provided for the reader's benefit. According to the authors, inter-personal understanding, team self-evaluation, proactive problem solving, and organizational understanding were found to be related to social capital, and social capital was a predictor of team effectiveness. Confronting members demonstrated a negative relationship to social capital. The authors stated that 25% of the variation in performance was explained by the model. No test statistics were provided.

The major limitation associated with the Wolff et al. (2006) studies is the lack of full methodological and statistical disclosure. The lack of disclosure inhibits researchers from understanding the design of the studies, the methods employed, as well as the data upon which

conclusions were based. The lack of disclosure prevents the verification of the conclusions and limits the ability for future replication.

Troth, Jordan, Lawrence, and Tse (2012) further explored the relationship of team emotional intelligence (TEI) and performance on a cross-level basis. Their study examined the impact of individual emotional intelligence factors in predicting individual level outcomes, team -level emotional intelligence constructs and individual performance, and finally team-level emotional intelligence measures and team performance. Their study included 57 teams from a total of 244 students in an undergraduate business communications class. The average team size was 5.36 members, and demographics of the sample were 45% male, 53% Australian, with an average age of 22. Each participant completed the Workplace Emotional Intelligence Profile-Short Version (WEIP-S) upon team formation to assess individual emotional intelligence from a self-report behavioral perspective. Subscale scores were averaged in order to calculate four emotional intelligence indicators per participant. Team emotional intelligence scores were calculated by averaging the team members' scores for each subscale; this methodology was reflective of what the authors refer to as a "summative compositional model" (p. 709), which reflects each member's equal opportunity to participate in the life of the team as well as a sum-of-the-parts orientation. Individual performance was measured eight weeks later by team members who provided peer assessments for communication performance using the Canary and Spitzberg (1987) rating instrument. After conducting inter-rater reliability tests and determining appropriateness, each team member's scores were averaged to calculate a communication performance rating for each participant. Team performance was determined eight weeks after team formation by the results from the team presentation as measured by one of four raters.

Appropriate measures were undertaken to provide for rater consistency, and inter-rater reliability analysis was conducted.

Prior to conducting the analyses to test the hypotheses, Troth et al. (2012) utilized covariance matrices and the maximum likelihood processes to assess the validity of the four emotional intelligence individual level constructs and the individual level communication performance variable. These processes resulted in a refinement to the communication preference variable with four elements being removed from the construct. The individual emotional intelligence constructs were found to be valid with no adjustments to the constructs needed.

The authors employed multiple techniques to study the proposed six hypotheses. Hierarchical linear modeling was used to evaluate the individual and cross-level (individual-team) relationships and bivariate correlation analyses was used to examine team hypotheses. No evidence was found to support that an individual's awareness or management of emotions in self or others was related to an individual's communication performance as measured by teammates. However, sufficient evidence indicated that the team-level construct of management of others' emotion was a significant positive factor in predicting the individual level communication performance, $\beta = .36$, $p < .001$. Within the team construct, manage own emotions was also a positive factor, $\beta = .14$, $p < .01$. Finally, awareness of others emotions was a significant negative factor in individual communication performance, $\beta = -.15$, $p < .01$. Overall, the hierarchical linear model relating individual emotional intelligence constructs, as well as team-level emotional intelligence constructs, with individual communication performance constructs indicated no significant individual emotional intelligence constructs and three team-level constructs (team own manage, team other aware, team other manage) with an overall R^2 of .33.

The authors (Troth et al., 2012) investigated additional cross-level relationships and reported findings, but no supporting tables or test statistics were presented. According to the authors, the higher the maximum score of the member of the team with the highest score in emotional management of others (team-level construct), the better the communication performance ratings for individuals; therefore, a positive relationship was observed between maximum member emotional management of others and individual communication performance. On the other hand, a negative relationship was confirmed in teams with a high scoring individual for the maximum score on emotional awareness of self and an individual's communication performance. Finally, it was suggested that results indicated that the greater the emotional management of others score for the lowest scoring team member, the better the performance of the individual communication variable. These alternative analyses may be as helpful in setting the path for future investigations as the formal hypotheses evaluated by the researchers.

The analysis of the team-level emotional intelligence constructs in relation to team-level performance was completed through a correlational analysis. The results indicated that team performance was most strongly associated with management of others' emotions, $r(52) = .42$, $p < .001$. In addition, performance was also found to be correlated with emotional awareness of others, $r(52) = .31$, $p < .05$, and awareness of own emotion, $r(52) = .25$, $p < .05$. Management of own emotion was not found to have a significant correlation with team performance.

In comparison to the previous studies cited in this section, Troth et al. (2012) presented the most methodologically sound study with the best level of research design, methods, and data disclosures. While limitations exist, such as a sample based upon undergraduate students, the methodology employed provides a meaningful example of how future research may be conducted. Furthermore, the results demonstrated team emotional intelligence components are

more meaningful than individual emotional intelligence components in understanding individual performance. Additionally, the analysis demonstrated the importance of team emotional intelligence, especially in the management and awareness of others, in relation to team performance.

Overall, the evidence regarding self-reported team emotional intelligence and team performance is somewhat underwhelming. Table 2.4 summarizes the findings. Studies have tended to focus on undergraduate samples or have lacked appropriate disclosure limiting confidence in drawing conclusions. The best study authored by Troth et al. (2012) provides the most compelling evidence of team emotional intelligence influencing individual and team performance.

Summary of Emotional Intelligence

Compared to the study of other intelligences, emotional intelligence is a newcomer to academic inquiry. Mayer and Salovey provide the most important foundation for the study through their multi-branch emotional intelligence models for individuals. Next, the emotional intelligence of teams was highlighted with two conceptualizations outlined in detail, team emotional intelligence-individual resource and team emotional intelligence-synergy. The connection between self-reported team emotional intelligence and team performance was explored. Generally, the studies highlighted exhibited severe limitations, such as lack of disclosure (Wolff et al., 2006) or undergraduate samples (Jordan & Troth, 2004; Troth et al., 2012). The strongest evidence of a positive relationship between self-reported team emotional intelligence (TEI) and team performance was provided by Troth et al. (2012). From an investigation of emotional intelligence, the literature review now moves into an exploration of trust.

Table 2.4
Summary of Self-Reported TEI and Team Performance

Study	Sample/Setting	Size of Team	EI Measure	Performance Measure	Findings	Limitations
Jordan and Troth (2004)	Undergraduate	3.2 members avg	WEIP-6	Results of survival scenario exercise	Individual performance not meaningfully correlated to emotional intelligence. Team performance positively correlated to TEI, $r(106) = .24$, $p < .05$. Management of own emotions significant and meaningful in predicting team performance, $\beta = .31$, $p < .01$. Discussion of own emotions significant and meaningful in predicting team performance, $\beta = -.20$, $p < .05$.	Undergraduate sample Short-term task Potential participant learning
Wolff et al. (2006)	MBA students	Unknown	Questionnaire designed to measure 6 ECGNs (team level measure)	Effectiveness as measured by instructor through five survey questions one month and six months after survey administration.	Interpersonal understanding, team self-evaluation, proactive problem solving, organizational understanding, and building external relationships positively and moderately correlated with team effectiveness at one month post survey completion. Interpersonal understanding, proactive problem solving, organizational understanding, and building external relationships moderately and positively correlated with team effectiveness six months after survey completion.	Limited design, methodological, and data disclosure
	Mid-western workers in six organizations	11.95	Questionnaire designed to measure 6 ECGNs (team level measure)	Team effectiveness as determined by a superior through a subjective questionnaire and by objective performance measures such as % of team goals achieved	Interpersonal understanding, team self-evaluation, proactive problem solving, and organizational understanding were found to be related to social capital, and social capital was found to be a predictor of team effectiveness.	Limited design, methodological, and data disclosure
Troth, Jordan, Lawrence, and Tse (2012)	Undergraduate	5.36	WEIP-S; Team scores created by averaging members' scores for each sub-scale.	Individual performance -peer assessment of communication using Canary and Spitzberg (1987) rating instrument; Team performance-rater's assessment of team presentation.	No evidence that an individual's awareness or management of others' emotions was related to individual-level communication performance. Team level construct of management of others' emotion a significant positive factor in predicting individual communication performance. Correlational analysis for team level constructs demonstrated that management of others emotions, $r(52) = .42$, $p < .001$, was most strongly associated with team performance, followed by emotional awareness of others $r(52) = .31$, $p < .05$, and awareness of own emotion, $r(52) = .25$, $p < .05$. Management of own emotion not significantly correlated to team performance.	Undergraduate sample

Trust

In this section of Chapter 2, a detailed exploration of publications relevant to the academic understanding of trust in organizational and team settings will be reviewed. First, the seminal work of R. C. Mayer et al. (1995) and their proposed integrative model of trust between

individuals in an organization is discussed. Then, the theory building work of McAllister (1995) around the constructs of cognitive and affective trust will be explored with follow-up confirmation provided by a review of Webber (2008).

Models of Trust: Formation Between Individuals

Understanding trust on the individual level is an essential foundation that will lead to a future exploration of trust in teams as well as the relationship of trust to team emotional intelligence and the impact to team outcomes. R. C. Mayer et al. (1995) developed a seminal model for the explanation of the trust process between two individuals within an organizational setting and noted that understanding of trust in the workplace would become more critical as movement away from direct supervision of employees and movement toward self-directed work teams transpired in the modern work environment. Since its publication, the model has been used widely as a basis for examining and explaining the trust process. As the authors explained later, "since we were drawing perspectives from multiple disciplines as inputs to the model, we wanted to provide a model that was generally applicable and would be used across multiple disciplines" (Schoorman et al., 2007, p. 344). Schoorman et al. (2007) noted that the model was theoretically groundbreaking because it explained trust as being relational, not solely as a trait of the trustor.

The Mayer et al. model (1995) was multi-dimensional and built upon prior research; it included a model factor called the trustor's propensity to trust, which is defined as "the general willingness to trust others" (Mayer et al., 1995, p. 715) and which captured the prior commonly accepted view of trust being a trait-like function of the trustor (Schoorman et al., 2007). Antecedents of trust included three factors of perceived trustworthiness as perceived by the trustor of the trustee. These factors were identified as ability, benevolence, and integrity.

"Ability is that group of skills, competencies, and characteristics that enable a party to have influence within some specific domain" (Mayer et al., 1995, p. 717). Benevolence is the perception by the trustor that the trustee has the intention or "want to do good to the trustor, aside from an egocentric profit motive" (Mayer et al., 1995, p. 718). Lastly, integrity is explained as the trustee being perceived as having an internal set of guidelines that are agreeable to the trustor (Mayer et al., 1995).

Within the Mayer et al. (1995) model, trust was a result of the factors of perceived trustworthiness and a trustor's propensity to trust within a specific context. Mayer et al. posited that the impact of perceived integrity would be most important early in a relationship prior to the development of perceived benevolence observations. Additionally, the authors concluded that the impact of perceived benevolence would increase over time as the relationship between trustee and trustor developed (Mayer et al., 1995).

The Mayer et al. model (1995) also included the trustor's perception of risk after the formation of trust. According to Mayer et al.,

> One does not need to risk anything in order to trust; however, one must take a risk in order to engage in trusting action. The fundamental difference between trust and trusting behaviors is between a "willingness" to assume risk and actually "assuming" risk (p. 724).

In the Mayer et al. (1995) model, risk taking in the relationship (RTR) was the term given to the trustor's situational evaluation of the levels of trust and perceived risk. If trust levels surpass perceived risk levels, then trustor will proceed with the RTR behavior. Once the trustor has undertaken the RTR and experienced an outcome, the experience influences the factors of perceived trustworthiness and the process begins anew.

The work of Mayer et al. (1995) demonstrated that trust is not simply a personal characteristic, but it is instead a multi-dimensional, on-going process that is both situational and relational. The paper that introduced the Mayer et al. (1995) integrative model focused exclusively on the individual as the unit of analysis. However, Schoorman, Mayer, and Davis (2007) indicated that the model was originally conceptualized and developed as a multilevel theory. They stated that, "we defined each of these trustworthiness dimensions so that it could be applied to interpersonal, intergroup, or interorganizational levels of analysis" (Schoorman et al., 2007, p. 345). Thus, the Mayer et al. (1995) model may also serve as a piece of critical understanding in discussions of intra-team trust.

Cognitive and Affective Interpersonal Trust within an Organizational Setting

McAllister (1995), writing contemporaneously with the work of Mayer et al. (1995), proposed seventeen hypotheses to theory build and to test affective and cognitive interpersonal trust within an organizational setting. According to McAllister's review of the literature, cognitive trust is defined as a competence-based, intentional decision to trust in the professional setting based in part upon competence, responsibility, reliability, and dependability. In the McAllister model, cognitive trust was expected to precede affect-based trust, which is trust based upon an emotional link within the relationship of trustor-trustee, where the motives of the trustee are critical to the trustor's development of affect-based trust. The McAllister theoretical model included (a) antecedents of each form of trust, (b) the relationship between cognitive and affective trust, (c) the consequent trustor's behavioral actions flowing from affective trust, and (d) the relationship between consequent behavior and performance of the trustor and the trustee.

McAllister's study (1995) examined peer relationships of mid and upper level managers in a design intended to capture "lateral interdependence" (p. 34). A convenience sample of

current and former students in an executive master of business administration program in southern California was asked to participate and to nominate two individuals from the same work environment, who would be considered peers, one of whom came from a list of individuals with whom the respondent worked best with and another from a list of individuals with whom the respondent worked less well with, to participate as well. The nature of the sample resulted in participants being older— on average thirty-eight years— than a typical student-focused survey effort and with significant depth of professional and educational experience. The sample was predominantly male (74.8%).

From the respondents who agreed to participate, relational triads were established. Each non- random triad was broken into three dyadic relationships with the study, including 175 manager-peer dyads, and individuals were randomly assigned to a role of manager, referred to as "focal manager" within the study, and referred to in this review as trustor. The non-focal manager individual within the dyad is referred to as a peer or the trustee in this review. It is important to note that even though the term focal manager was given to a single participant assigned to a particular triad, the individuals included in the triad were functional peers within the organization. The study was not one focused on dimensions of leadership and trust. Additionally, it is important to note that triads were not teams as defined by Katzenbach and Smith (1993).

McAllister (1995) next employed an iterative process based upon prior research to develop a survey assessment tool for the triads. Exploratory factor analysis was used to reduce the number of items regarding cognitive and affective trust from twenty to eleven. Cronbach's alpha tests were also performed for these constructs with strong results of .91 and .89. The survey included twenty-five additional behavioral questions to trusting or not trusting;

exploratory factor analysis and confirmatory factor analysis were conducted on these items. Individuals who were considered superiors, or someone in a position to evaluate the performance of the individuals within the triads, were also identified and asked to provide assessment data of the individuals comprising the triads as a measure of performance.

Through a multi-step and extensive structural equation modeling process and ordinary-least-squares regression analyses, McAllister tested the hypotheses related to (a) the antecedents of cognitive and affective trust, (b) the relationship between cognitive and affective trust, (c) the relationship of affective trust to consequent behaviors, and (d) the linkages between consequent behaviors and performance.

For the purposes of this literature review, the following contributions emerged. McAllister (1995) found sufficient and meaningful evidence to support that cognitive and affective trust are distinct constructs that share a positive relationship, with additional evidence that cognitive trust occurs at a greater magnitude and likely precedes affective trust. The second major contribution from McAllister was that he theorized and partially tested the relationships between affective trust and the trustor's consequent behavior. The findings supported that an individual's affective trust level in a peer meaningfully and positively impacted the trustor's behavior. Specifically a positive relationship was shown between the trustor's affective trust levels and the trustor's "sensitivity to the personal and work-related needs" or needs-based monitoring of the peer (McAllister, 1995, p. 31) as well as affiliative and assistance citizenship behaviors. Evidence supported that an individual's affiliative citizenship behavior towards the peer was a positive and meaningful predictor for the performance of the focal manager or trustor. This type of relationship is indicative of an indirect, mediated relationship between trust and performance outcomes.

In examining the McAllister study, not only in the context of interpersonal relationship, but also within a broader context of the study of team emotional intelligence and intra-team trust, it is important to note that there are similarities in McAllister's needs-based monitoring and affiliative citizenship behavior variables and the team-level emotionally competent norms of caring orientation and interpersonal understanding proposed by Druskat and Wolff (2001a, 2001b). Perhaps without intending to, McAllister appears to have provided early theoretical underpinnings to the conceptualization of trust having a relationship to emotional intelligence and ultimately to performance.

Webber (2008) also examined cognitive and affective trust, but did so in a small team environment in the form of an eight-week, longitudinal study. Her study examined 78 teams with three to four members in an undergraduate class setting. Teams were tasked with assignments of multiple deliverables for a single project throughout the research period. Familiarity was measured at time 1, the time of team formation, via survey instrument. Generally, the teams exhibited low intra-team familiarity.

Intra-team trust measures were assessed at two measurement periods: three and eight weeks after team formation. Intra-team trust was assessed using the McAllister (1995) trust measure adapted for a team-level measure. In addition to trust measures, interaction frequency, affiliative citizenship behaviors, reliable performance, and monitoring behavior were all measured using the McAllister (1995) instruments again adapted for a team-level unit of analysis at time 2. Performance was also assessed by the author for fifty-four teams. Intra-class correlation analysis supported the aggregation of individual data to the team level for each variable under consideration.

Factor analysis for intra-team trust was conducted at time 2 and 3 with results indicating a one-factor solution at time 2 and a two-factor solution at time 3. The solution at time 3 resulted in distinct loadings for cognitive and affective trust with reliability measures of .84 and .88. Thus, affective trust appears to emerge after experience as a team. The correlation of cognitive and affective trust at time 3 was measured at $r(76) = .64$, $p < .05$.

Regression analyses were conducted to evaluate a number of hypotheses related to the relationship of the behavioral variables measured at time 2 to the trust constructs at time 3. Generally, these results demonstrate low significance and low explanatory power. Two additional regression analyses were conducted to evaluate the relationship of the trust constructs at time 3 to team performance. Affective trust demonstrated a statistically significant relationship to performance with a $R^2 = .07$, $p = .05$, whereas cognitive trust did not.

The contribution of this research study is to confirm the existence of two distinct trust constructs, cognitive and affective, and to identify that time is a consideration in the emergence of the constructs as unique and separate from one another. Additionally, the evidence appears to support that affective trust is more meaningful in understanding factors influencing performance than cognitive trust. Furthermore, given the low levels of explanatory power, there is also an observation that performance must be influenced by variables not under consideration in the study and that the direct influence between trust and performance is low.

While Webber (2008) does make contributions to the understanding of cognitive and affective trust, there are limitations to acknowledge as well. A student population comprised the study sample and that may limit the ability to generalize to a working adult population. The study design with the collection of behavioral variable data at time 2 versus time 3 is concerning and may have resulted in the lack of meaningful regression results; additionally, the

conceptualization of the behavioral variables as antecedent of trust constructs versus a consequent behavior of trust construct differs from the McAllister (1995) model and may have resulted in model misspecification.

Summary of Trust

Trust is multi-dimensional, situational, relational, and a process (R. C. Mayer et al., 1995; McAllister, 1995). Antecedent and consequent behaviors are associated with trust (R. C. Mayer et al., 1995; McAllister, 1995). Two distinct forms of trust emerge from academic study, cognitive, a competence-based trust, and affective, an emotion-based trust (McAllister, 1995; Webber, 2008). Affective trust may exert a stronger influence on performance than cognitive trust, yet there is evidence that both constructs impact consequent behaviors, which influence performance (McAllister, 1995; Webber, 2008). Many researchers have investigated trust over the years. R. C. Mayer et al. (1995) and McAllister (1995) were selected for inclusion because these authors' studies are seminal pieces which form a foundation in the academic understanding of trust.

Emotional Intelligence, Trust, and Performance in Teams

From separate examinations of emotional intelligence and trust, next an exploration of how researchers have studied the relationship of emotional intelligence, trust, and performance within a team dynamic is presented. The first study by Barczak et al. (2010) investigated these elements in a higher educational setting, whereas Chang et al. (2012) conducted their analyses based upon data collected in work environments. Both studies are important for beginning to understand how emotional intelligence and trust may interact to impact team performance. Additionally, both studies are important to this study's research design.

Barczak et al. (2010) studied emotional intelligence, trust, collaborative culture, and creativity within an undergraduate student population. The sample of 82 teams, comprised of 422 individuals, was primarily comprised of sophomore students (47.2%) enrolled in a marketing class where team formation was based upon a class assignment. Data were collected from students via a survey instrument. Team emotional intelligence, an independent variable, was assessed using the Jordan and Lawrence (2009) instrument, which classifies team emotional trust into four categories: awareness of own emotions, management of own emotions, awareness of others' emotions, and management of others' emotions. Intra-team trust, an independent variable, was measured using the scale developed by McAllister (1995) and was comprised of two components: affective and cognitive trust. The Rego, Sousa, Pina e Cunha, Correia, and Saur-Amaral (2007) scale was used to measure creativity as self-reported by participants, the dependent variable, and the Lopez, Peon, and Ordas (2004) scale was employed to measure collaborative environment, an independent variable. In this study, creativity was, in essence, used as a proxy for team performance. Because both independent and dependent variables were participant self-report measures, the potential for common rater bias was elevated (Podsakoff et al., 2003). Team member responses were aggregated to create a team measure.

The researchers began with an exploratory factor analysis for each instrument or scale used in the study to ensure loadings were appropriate and dimensions were as expected. Cronbach's alpha readings also indicated support for items used within each construct. Hierarchal moderated regression analysis was utilized to test the hypotheses. The researchers employed a multi-step regression process. First, each component of intra-team trust was treated as a dependent variable and was regressed against each control variables as well as the four components of team emotional intelligence. Awareness of own emotions ($b = .46$; $p < .001$) and

management of others' emotions (b = .40; p < .001) demonstrated positive and significant relationship to affective trust, R^2 = .60. Management of own emotions (b = .33; p < .001) and management of others' emotions (b = .61; p < .001) demonstrated positive and significant relationship to cognitive trust, R^2 = .50. Collaborative culture was regressed against the dimensions of team emotional intelligence, the two components of trust, and the control variables. In this analysis, none of the team emotional intelligence dimensions displayed significant regression coefficients. Both affective (b = .43; p = .02) and cognitive trust (b = .33; p = .03) were significantly positively related to collaborative culture.

In a moderated hierarchical regression, team creativity was regressed against collaborative culture and affective and cognitive trust. Cognitive trust (b = .24; p < .001) and collaborative culture (b=.84; p < .001) were found to have positive and significant impacts on creativity. A final regression analysis was conducted including an interaction effect for cognitive trust and collaborative culture. The results indicated that both cognitive trust (b = .31; p < .001), collaborative culture (b=.76; p < .001), and the interaction effect (b = .15; p = .03) had positive and significant relationship to creativity, R^2 = .82.

While this study has short-comings, such as the use of self-report measures for both independent and dependent variables and the student-based sample, it is significant in that the authors propose and empirically test a relationship between team emotional intelligence, trust, and creativity. The authors self-attribute that their study is the first empirically-based study to examine the linkages between emotional intelligence and trust in a team setting (Barczak et al., 2010).

From the foundation that Barczak et al. (2010) provided, Chang et al. (2012) dramatically improved upon the research design and analysis in a critical study for the understanding of how

these elements interact in a real-world setting. The study consisted of 91 teams from 347 individuals who were representative of multiple industries in the western U.S. The sample was created through a network referral process. The demographics of the sample were an average participant age of twenty-eight years old, average time with employer of 2.9 years, and 57% of the sample was female. Educational attainment was 39% high school, 34% undergraduate degree, 8% graduate degree. The sample was predominantly minority-based with 33% of respondents identifying as Asian and 31% Hispanic. The researchers intentionally limited the study to teams with five or fewer members.

Emotional intelligence of team members and team leaders was measured using the short-version of the Emotional Intelligence Scale (EIS) (Saklofske, Austin, & Minski, 2003). The EIS responses were reduced to the top four responses per factor loadings and were evaluated using confirmatory factor analysis to determine appropriateness of representing emotional intelligence (EI) as a four-dimension construct based upon the J. D. Mayer and Salovey (1997) model of emotional intelligence. Team-level emotional intelligence was calculated by averaging team member's, inclusive of team leader, individual EI scores as had been suggested by Elfenbein (2006) and in a similar methodology to Jordan and Ashkanasy (2006); Troth et al. (2012). Intra-team trust was measured by using the McAllister (1995) instrument. Team members and team leaders provided responses and a weighted average was calculated with an assignment of 50% weighting to responses of the team leaders. Team performance was measured by a three question self-report measure as answered by team leaders.

Confirmatory factor analysis (CFA) was conducted to explore if common method variance was an issue in relation to the responses provided by team leaders (emotional intelligence, trust, and performance). The analysis indicated that a single-factor model was not

the best fit, but instead that the three-factor model was a better fit at $\chi^2(df = 32) = 47.98$; $p < .05$ and comparative fit index (CFI)= .97 and root mean square error of approximation (RMSEA) = .07. CFA analysis was also performed on the team member rated variables and it was found that a two-factor model was superior to a one-factor model, $\chi^2(df = 13) = 33.19$; $p < .01$ and CFI = .93 and RMSEA = .13.

Fourteen different hierarchical regression analyses were conducted to test the researchers' hypotheses. The analyses included separate regression analyses for each dimension of emotional intelligence and for the overall EI construct for the team as well as the team with leader data. Analysis was conducted using both intra-team trust and performance as the dependent variable. Both member ($b = .46$; $p < .001$) and leader EI ($b = .48$; $p < .001$) were found to be a significant variable in predicting intra-team trust ($R^2 = .55$; $p < .001$). Each dimension of leader EI was also found to be a predictor of intra-team trust as was each dimension of team member EI.

Team emotional intelligence (TEI) and team performance was evaluated first with a regression analysis that did not include leader or leader member interaction. The analysis demonstrated that TEI was significant ($b = .51$; $p < .01$) in predicting team performance with an $R^2 = .12$. When TEI was evaluated using each dimension of team emotional intelligence versus the overall construct, emotion appraisal ($b = .53$; $p < .001$, $R^2 = .23$) and social skills ($b = .51$; $p < .001$, $R^2 = .19$) were found to be significant in predicting team performance.

When TEI, team leader EI, and a moderating interaction term for team leader and member EI were included in the analysis, the result indicated that the main effect of overall leader EI was significant ($b = .33$; $p < .01$) with an overall model $R^2 = .28$; $p < .001$ in predicting team performance. Each dimension of leader EI was also found to be significant and to demonstrate a positive relationship to team performance. The interaction effect of leader EI and

TEI was found to be significant in predicting team performance for the overall TEI measure, as well as two dimensions of emotional intelligence, emotion appraisal, and social skills. For the overall EI model, the interaction effect (b = -.21; $p < .05$) displayed a negative relationship with team performance.

Chang et al. (2012) further investigated the relationship between member and leader EI and performance through a simple slope analysis. The analysis showed what the researchers described as a "compensatory" (Chang et al., 2012, p. 89) relationship where high TEI only made a meaningful impact on team performance when the leader exhibited low EI. Leader EI was more important in determining team performance when TEI was low.

Finally, intra-team trust was included in the regression models to test the hypothesis that intra-team trust behaved as a mediating independent variable between TEI, leader EI, and performance. When intra-team trust was included in the regression analyses, both for the overall EI construct as well as the four dimensional models, intra-team trust displayed positive and significant unstandardized regression coefficients. For the overall EI model (R^2 = .34; $p < .001$), intra-team trust unstandardized regression coefficient was .36, p = .01. Team and leader EI, as well as the interaction variable, became not significant to the model. Chang et al. (2012) concluded that sufficient evidence was present to support a mediating role for intra-team trust.

Chang et al. (2012) contributed greatly to the body of team emotional intelligence by providing empirical evidence of the relationship of team EI to team performance, demonstrating the main effect importance of the team leader EI in team performance, providing evidence of a team dynamic whereby high team EI is most beneficial to team performance when team leader EI is low and vice versa, and by demonstrating the mediating role that intra-team trust may play within team and leader EI and team performance. The contribution is further enhanced as the

study sample was representative of live work teams with an adult population or in situ research as called for by Troth et al. (2012).

The work of Chang et al. (2012) provides a meaningful empirical and research design milestone for future researches looking to better understand the role of team emotional intelligence in team performance. Additionally, in the study's discussion, Chang et al. (2012) call for the examination of TEI as both an input characteristic, which is reflective of the individual resource conceptualization, as well as an "emergent state" (p. 94), which is reflective of the Druskat and Wolff (2001b) and Wolff et al. (2006) conceptualization of group emotional intelligence. The researchers' articulation of the potential for these two conceptualizations of team emotional intelligence to be complementary versus mutually exclusive, drawing on the insight from Elfenbein (2006), provides fertile ground for future researchers to explore.

The most notable limitation of the study is the reliance on self-report measures for both the independent and dependent variables. While appropriate means were undertaken to ensure results were not negatively impacted by common method variance, the lack of an objective measure of team performance is a concern and presents opportunity for design improvement for future researchers.

Summary of Emotional Intelligence, Trust, and Performance in Teams

The investigation of emotional intelligence, trust, and performance in teams is in its infancy. Barczak et al. (2010) demonstrated the positive relationship between TEI and cognitive and affective trust. Chang et al. (2012) provided an extension of the Barczak et al. (2010) work that included a sample of professionals versus undergraduate students, inclusion of team leader impacts, and overall a much more sophisticated and thorough research design and analysis. Chang et al. (2012) found that team emotional intelligence was significant in predicting team

performance. Both studies utilized a performance measure that was self-reported, thereby creating one of the major limitations found consistently throughout team emotional intelligence research efforts. Table 2.5 summarizes each study.

Literature Review Summary

This chapter provides an exploration of the following: (a) emotional intelligence; (b) trust; and (c) emotional intelligence, trust, and performance as a background to the conceptual framework proposed in Chapter 1.

Emotional intelligence is a relatively recent area of academic inquiry. While multiple researchers have proposed models of individual emotional intelligence, the work of Mayer and Salovey provides the most important foundation for this study. On the individual level of analysis, J. D. Mayer et al. (2000) proposed a pure ability-based conceptualization of emotional intelligence in multi-branch models that included the following key elements: (a) Perception; Appraisal, and Expression of Emotion; (b) Emotional Facilitation of Thinking; (c) Understanding and Analyzing Emotions-Employing Emotional Knowledge; and (d) Reflective Regulation of Emotions to Promote Emotional and Intellectual Growth (J. D. Mayer & Salovey, 1997). From an exploration of the emotional intelligence of individuals, the review moved to explore the concept of team emotional intelligence. Two primary views of team emotional intelligence were presented: team emotional intelligence-individual resource and team emotional intelligence-synergy. Next, the link between self-reported team emotional intelligence and team performance was highlighted through the review of four studies. Generally, the studies exhibited severe limitations, such as lack of disclosure or use of undergraduate samples. The strongest evidence of a positive relationship between self-reported team emotional intelligence (TEI) and team performance was provided by Troth et al. (2012).

The next element of Chapter 2 was an exploration of trust. The work of R. C. Mayer et al. (1995) was highlighted as a seminal piece because it attributed trust, not simply as a personal characteristic, but as a multi-dimensional, on-going process that is both situational and relational. Of direct importance to the research, the work of McAllister (1995) was discussed in detail with specific focus on two distinct forms of trust: cognitive and affective.

The final section of Chapter 2 explored emotional intelligence, trust, and performance in teams. Two studies were highlighted. The first, Barczak et al. (2010), is important in relation to the study, because the authors proposed a relationship between team emotional intelligence, trust, and creativity. The second study, conducted by Chang et al. (2012), provides a more meaningful guide to the study. Chang et al. (2012) employed sound methodological techniques within a sample of working adults and was able to demonstrate that team emotional intelligence was a predictor of team performance.

Now that a theoretical exploration and foundation for the study has been presented in detail, the literature review will progress into Chapter 3 where an overview of the study's research methodology is presented.

Table 2.5
Summary of Emotional Intelligence, Trust, and Team Performance Studies

Study	Sample/Setting	EI Measure	Trust Measure	Performance Measure	Findings	Limitations
Barczak et al. (2010)	Undergraduate students, mostly sophmores.	Jordan and Lawrence (2009) measure	McAllister (1995) scale	Creativity as measured by the Rego, Sousa, Fina e Cunha, Correia, Saur-Amaral (2007) scale	Awareness of own emotions (b = .46; p = <.001) and management of others' emotions (b = .40; p = < .001) demonstrated positive and significant relationship to affective trust. Management of own emotions (b = .33; p < .001) and management of others' emotions (b = .61; p < .001) demonstrated positive and significant relationship to cognitive trust. Cognitive trust (b = .31; p < .001), collaborative culture (b=.76; p < .001), and the interaction effect (b = .15; p = .03) had positive and significant relationship to creativity Cognitive trust (b = .31; p < .001), collaborative culture (b=.76; p < .001), and the interaction effect (b = .15; p = .03) had positive and significant relationship to creativity	Lack of full disclosure. Use of self-report measures for independent and dependent constructs.
Chang et al. (2012)	Adults working in western U.S. Sample was majority minority (Asian and Hispanic)	Emotional Intelligence Scale (EIS)-Short version	McAllister (1995) scale	Team performance assessed by team leaders using a three question self-report measure.	TEI, overall construct, was significant (b = .51; p < .01) in predicting team performance with an R^2 = .12. Each dimension of TEI, emotion appraisal (b = .53; p < .001, R^2 = .23) and social skills (b = .51; p < .001, R^2 = .19) were found to be significant in predicting team performance. Evidence of mediating role for intra-team trust in overall EI model, inclusive of team and team leader EI.	Majority of sample is minority-based. Use of self-report measure for performance construct

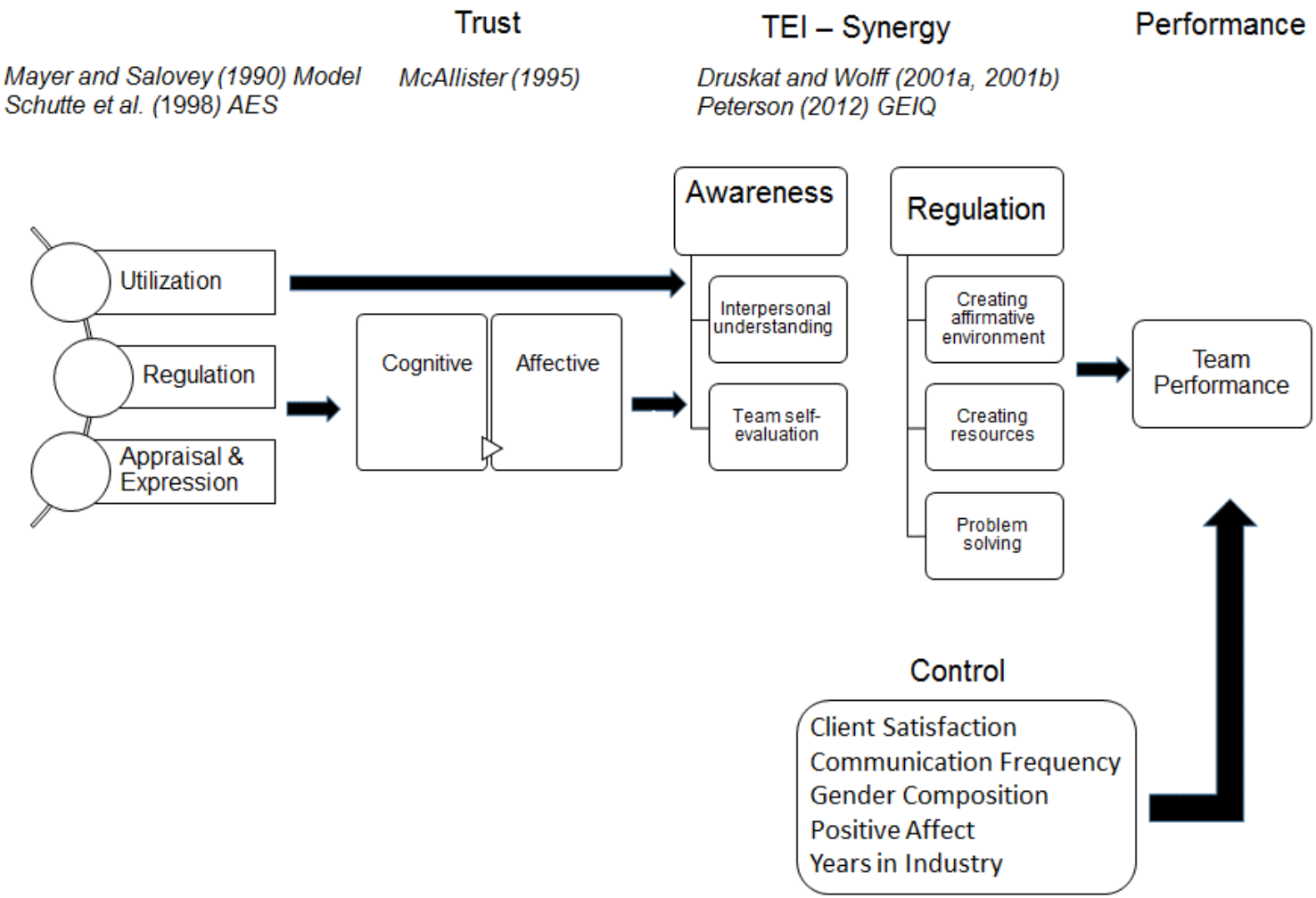
CHAPTER 3: RESEARCH METHODOLOGY

In this chapter, the research methodology and design will be thoroughly explained. In order to complete this review, the conceptual model, research questions, and hypotheses will be highlighted. In addition, the setting and participants will be described as well as the survey administration protocol. A detailed description of the operationalization and creation of each variable will be reviewed with specific focus on providing in-depth explanation for the construct evolution for team emotional intelligence. Next, the data analysis plan and rationale will be explored. Finally, the chapter will conclude with a review of threats to reliability and validity.

Before a research methodology and design can be determined, an appropriate and meaningful research question must be asked (Vogt, 2007). As Vogt (2007) writes, "The nature of the research question determines whether the thing is or is not worth doing" (p. 6). The conceptual model underlying the research questions that were investigated is presented in Figure 3.1. The study investigated the following questions: (a) Is team emotional intelligence-synergy (TEI-S) related to team performance?; (b) Are particular factors of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding team performance (TP) outcomes?; (c) Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrate predictive value in understanding team performance?; (d) Does intra-team trust (ITT) mediate the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S)?

The study was structured as a cross-sectional, non-experimental, quantitative exploration within a Private Wealth Services division of an U.S. based bank. Data collection of independent variables was accomplished through a self-report survey instrument and the dependent construct

Figure 3.1
Conceptual Model



of team performance was collected through an institutional stacked ranking performance report. Data analyses included examination of descriptive data, exploratory factor analysis, confirmatory factor analysis, multivariate regression analysis, as well as structural equation modeling.

To allow for analysis of common source bias using the Measured Method Variable Model, the study included indicators of positive affectivity from the International PANAS Short Form developed by Thompson (2007).

Study variables are summarized in Table 3.1

Table 3.1
Summary of Research Study Variables

Research Questions and Hypotheses

Type of Construct Variable	Construct	Measure	Creator of Measure/Year
Independent	TEI-IR	Assessing Emotions Scale	Schutte et al. (1998)
Independent	TEI-S	GEIQ	Peterson (2012)
Mediating	ITT	McAllister	McAllister (1995)
Dependent	TP	Stacked ranking	Internal report
Control	Client Satisfaction	Internal resources	Internal report
Control	Communication Frequency	Control questionnaire	Researcher
Control	Gender Composition	Control questionnaire	Peterson (2012)
Control	Positive affect	PANAS	Watson, Clark, and Tellegen (1988)
Control	Years in Industry	Control questionnaire	Researcher

As noted previously, this non-experimental, quantitative-based study explored four questions related to team emotional intelligence, intra-team trust, and team performance. In this section, each research question will be reviewed and corresponding hypotheses will be presented.

(1) Is team emotional intelligence-synergy (TEI-S) related to team performance (TP)?

(2) Are particular factors of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding team performance (TP) outcomes?

(3) Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrate predictive value in understanding team performance (TP)?

(4) Does intra-team trust (ITT) mediate the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S)?

- H_{4a}: Intra-team trust (ITT) mediates the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S).
- H_{4b}: Intra-team trust (ITT) will be positively related to team emotional intelligence-synergy (TEI-S).
    - H_{4b1}: Cognitive trust (CT) will be positively related to team emotional intelligence-synergy (TEI-S).
    - H_{4b2}: Affective trust (AT) will be positively related to team emotional intelligence-synergy (TEI-S).
    - H_{4b3}: Affective trust (AT) will be more strongly associated with team emotional intelligence-synergy (TEI-S) than cognitive trust (CT).

Setting and Sample

Study participants were comprised of the population of client-facing team members within the Private Wealth Services division of an U.S. based bank. The organization was structured such that the division's critical work of client service and client acquisition was

delivered primarily through self-directed, multi-functional work teams. The team structure is depicted in Figure 3.2. Teams were comprised of a professional advisor (PA), who had primary responsibility for each assigned client's relationship; this role typically behaved as an informal team leader though no official managerial power was held by this function. Success for this job function was tracked through an internal management stacked ranking report, which reflected the metrics by which the role was evaluated. Each individual filling this role was included in the report with data for each metric weighted according to a schema determined by leadership and reflective of the goals and objectives for a particular year. Professional advisors were ranked from one, the best ranking, to 86, the lowest performing advisor. Eighty-six PA's, who had been in the position for at least eighteen months, were active in the organization during the study period.

Other roles within the self-directed teams were filled by professionals, who were considered subject-area experts or specialists in credit, financial planning, insurance, investments, and trust and estate administration. As noted earlier, these individuals had no formal reporting ties to the PA or to each other. Specialists typically worked with multiple professional advisors. Each specialist member of the team reported to a manager, who managed other individuals in the same job function across geographies. Approximately 200 specialists were employed by the organization.

Figure 3.2
Self-directed, Private Wealth, Client Facing Team Structure

Survey Administration

An electronic, email-based survey using SurveyMonkey was administered to the entire population of professional advisors and specialists within credit, financial planning, investments, and trust and estate administration of the selected organization. Insurance specialists were not included in the survey as they were employed by another organization. Professional advisors received a single survey. Specialists received a similar survey to the professional advisors, but also had the opportunity to answer questions related to each professional advisor team with which the specialist worked. There were eighty-six potential teams in the organization. The analysis included a sample size of n = 29 teams or 33.7% of potential teams. Unique respondents totaled 85, 29 professional advisors and 56 specialists. In order to be considered a team, at least three team members, inclusive of the professional advisor and an investment professional, were

required to respond to the survey. More detail regarding team-level aggregation of variables will be provided under the discussion of operationalization of key variables and constructs.

Prior to distribution of the survey, approval from divisional leadership was attained and documented for the survey to be distributed to the identified employees. All professional advisor managers and specialist managers were notified of the survey. Prior to distribution of survey, each managing director was contacted via telephone to respond to any questions regarding the study in general and survey administration in particular.

All potential participants were notified of the study via their work email addresses a week prior to distribution of the email surveys. Informed consent was collected via a check box on the survey in accord with requirements from the Internal Review Board. For Internal Review Board documentation, see Appendix A. Surveys were distributed via SurveyMonkey. Beginning a week after distribution of the survey and continuing through the end of the survey administration, a weekly email requesting participation was sent to individuals, who had not responded to the survey. Less than ten hard copy survey were distributed to individuals, who had issues with the SurveyMonkey administration. Multiple monetary incentives were offered for participation.

Survey responses were kept confidential with only the researcher having access to participants' names and responses. Survey data were extracted from SurveyMonkey and exported directly into SPSS 23.0, a statistical analysis software application. Responses from two hard copy responses were coded by hand directly into SPSS. Responses for the professional advisors were contained within a single file as were responses for specialists. The file for the specialists required manual reformatting, so that specialists who responded for more than one professional advisor team had a single row entry for each team. Furthermore, the files for the

professional advisors and the specialists had to be reformatted so that the files could be merged into a single file. Once a single file was created, the data were analyzed to determine how many response configurations met the requirements established to be treated as a team. Respondents who were not included in a team configuration due to insufficient responses at the team level were deleted from the data set.[1] Reverse coded questions were recoded using SPSS change variable command.

After these data preparation steps, 85 unique respondents, who represented 29 teams, were left in the data set. At this point in the analysis, additional steps were taken as described under the Operationalization of Variable and Constructs. The creation of team-level variables was accomplished by exporting the SPSS file into MS Excel and utilizing the subtotal-average function with grouping occurring by the team code and by manual input when appropriate. The excel data file was filtered in such a manner that individual respondent data were deleted from the worksheet with the team-level data remaining. The team-level data set was imported into SPSS for creation of index variables and completion of data analysis procedures.

Operationalization and Creation of Variables and Constructs

This section examines the operationalization of the components of the conceptual model. Independent variables, team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S), constructs will be reviewed first. The proposed

[1] Seventy-eight professional advisors responded to the survey. Fifteen were eliminated because they had not been in the position for eighteen months. Forty-nine responses were eliminated because there were insufficient specialist responses to create team-level data or from PA attrition from the organization and a lack of dependent variable data. One response was eliminated due to severe lack of completion. Seventy-five specialists responded to the survey for forty-one professional advisor teams. Nineteen respondents representing twelve professional advisors teams were eliminated due to either lack of professional advisor response, attrition of professional advisor, lack of sufficient responses to create team-level data, or the professional advisor lacked eighteen months of tenure.

moderating variable intra-team trust (ITT) will be discussed next. Team performance (TP), the dependent variable, will then be highlighted. Finally, control variables will be reviewed.

Independent Variables

Team emotional intelligence-individual resource (TEI-IR). Several instruments are available to measure emotional intelligence on the individual person level. Instruments generally fall into two categories, either (a) those that measure an underlying or latent ability that is assessed through the completion of a task or (b) a trait-based self-report or observed measure that is designed to capture reflection on the occurrence of the emotional intelligence element in practice during normal living interaction (Schutte, Malouff, & Bhullar, 2009). For the purposes of this study, it was determined that pursuing an instrument that measured latent ability was not feasible due to cost and time constraints. Therefore, a self-report measure of trait characteristics was identified that would be feasible, reliable, and valid in capturing the desired construct.

The assessing emotions scale (AES). The Assessing Emotions Scale (AES), which is also identified as the Schutte Emotional Intelligence Scale, the Emotional Intelligence Scale (EIS), and the Schutte Self-Report Emotional Intelligence Scale (SSREI), was selected as the scale to measure team emotional intelligence-individual resource construct. The scale is located in Table 3.2. The scale was published by Schutte et al. (1998) and has been evaluated extensively for reliability and validity in multiple settings (Schutte et al., 2009). Time to complete is estimated at five minutes (Schutte et al., 2009).

The scale was created based primarily upon the Salovey and Mayer (1990) model of emotional intelligence. Schutte et al. (1998) described the Salovey and Mayer models as "the most cohesive and comprehensive models of emotional intelligence" (p. 169). Initially, sixty-two items were created and piloted by the authors with 346 participants from the southeastern

Table 3.2
Assessing Emotions Scale (AES) survey questions (Schutte et al., 1998)

#	Question
AES1	I know when to speak about my personal problems to others
AES2	When I am faced with obstacles, I remember times I faced similar obstacles and overcame them
AES3	I expect that I will do well on most things I try
AES4	Other people find it easy to confide in me
AES5	I find it hard to understand the non-verbal messages of other people*
AES6	Some of the major events of my life have led me to re-evaluate what is important and not important
AES7	When my mood changes, I see new possibilities
AES8	Emotions are one of the things that make my life worth living
AES9	I am aware of my emotions as I experience them
AES10	I expect good things to happen
AES11	I like to share my emotions with others
AES12	When I experience a positive emotion, I know how to make it last
AES13	I arrange events others enjoy
AES14	I seek out activities that make me happy
AES15	I am aware of the non-verbal messages I send to others
AES16	I present myself in a way that makes a good impression on others
AES17	When I am in a positive mood, solving problems is easy for me
AES18	By looking at their facial expressions, I recognize the emotions people are experiencing
AES19	I know why my emotions change
AES20	When I am in a positive mood, I am able to come up with new ideas
AES21	I have control over my emotions
AES22	I easily recognize my emotions as I experience them
AES23	I motivate myself by imagining a good outcome to tasks I take on
AES24	I compliment others when they have done something well
AES25	I am aware of the non-verbal messages other people send
AES26	When another person tell me about an important event in his or her life, I almost feel as though I have experienced this event
AES27	When I feel a change in emotions, I tend to come up with new ideas
AES28	When I am faced with a challenge, I give up because I believe I will fail*
AES29	I know what other people are feeling just by looking at them
AES30	I help other people feel better when they are down
AES31	I use good moods to help myself keep trying in the face of obstacles
AES32	I can tell how people are feeling by listening to the tone of their voice
AES33	It is difficult for me to understand why people feel the way they do*

*Note:(1- Completely Disagree); (2-Disagree); (3- Somewhat Disagree);(4-Somewhat Agree); (5-Agree); (6-Completely Agree). * Reverse coded.*

U.S. Items were measured using a 5-point Likert scale. The researchers used "principal-components, orthogonal-rotation, factor analysis" (Schutte et al., 1998, p. 171) to determine that 33 items loaded onto a single factor. The single factor contained items representing each element and sub-element of the Salovey and Mayer (1990) model: appraisal and expression of

emotion, 13 items; regulation of emotion, 10 items; utilization of emotion, 10 items. The authors determined that keeping a single factor or dimension with the scale was preferable and decided to treat the scale as unidimensional. Internal reliability of the scale was measured through a Cronbach's alpha analysis which demonstrated a .90 level. Validation of the scale was accomplished by conducting correlational tests with participant results from previously validated and reliable instruments assessed to measure constructs that share a theoretical basis.

In follow-up studies with relatively small samples of 32 and 28 college students, Schutte et al. (1998) found that internal consistency remained at an appropriate level of .87 and .78 for the test-retest reliability over a two week period. An additional study of 64 first-year college students found that the 33-item scale was significant and meaningful in predicting cumulative grade point average for the students, $r(63) = .32$, $p < .01$ (Schutte et al., 1998, p. 174).

The researchers undertook two additional studies to evaluate discriminant validity. One study examined SAT or ACT scores, taken as an indication of cognitive ability, for 42 first-year students in relation to emotional intelligence and found the two to not be correlated. The other study examined the relationship between "the big five personality dimensions" (Schutte et al., 1998, p. 174) and the AES scale for 23 college students with an average age of 28.65. Only one component of the big five, openness to experience, was found to be significantly related to emotional intelligence, whereas the other four components were not found to be significantly related to emotional intelligence.

While the AES is not a perfected instrument, it is an instrument that has been studied widely and used repeatedly by researchers for exploring emotional intelligence. Information regarding additional research efforts related to the AES is located in Appendix B. Acceptable reliability and validity evidence and the length of the scale make it appealing for use when

brevity is a critical decision factor (Jonker & Vosloo, 2008). Based in part upon the lack of data regarding substantial improvement with the modified AES, the AES was used in the study as the scale to measure emotional intelligence-individual resource construct.

Creating TEI-IR. The AES was administered to both professional advisors and specialists as part of the survey administration. A six-point Likert scale was chosen for measurement, based in part on its use in measuring the construct TEI-synergy and a desire by the researcher to use a consistent Likert scale throughout the measurement of the team emotional intelligence and intra-team trust measures.

Because different studies had resulted in a varying number of factors emerging from responses to the instrument, an exploratory factor analysis was completed with the data for the 85 unique respondents. Exploratory factor analysis is an appropriate method for identifying key constructs via a statistical method versus utilizing intuition (Fabrigar & Wegener, 2012, pp. 20-21). An extraction method of Maximum Likelihood (ML) was selected based upon the recommendation of Fabrigar and Wegener (2012) that ML is typically preferable to other methods based upon the additional, supplementary information the method provides over other methods.[2] An orthogonal rotation was employed using the Varimax and Kaiser Normalization rotation method, as it is a commonly used rotation method (Fabrigar & Wegener, 2012); this selection of methods was also employed by Petrides and Furnham (2000). Additional analyses utilizing an oblique rotation were also examined; these analyses yielded similar results. Replacement by mean was used for missing data, because missing data were extremely low (Saunders et al., 2006). Eight questions were impacted each by one missing data point;

[2] Shapiro-Wilk results indicated that the 33 variables were not normally distributed. Kurtosis and skew values were evaluated. According to Fabrigar and Wegener (2012), skewness and kurtosis values "substantially smaller" (p. 99) than absolute value for skew of 2+ and for kurtosis 7+ are acceptable for ML.

therefore, eight questions had 1.18% missing data. After completion of the exploratory and confirmatory factor analysis, the remaining questions were impacted each by a single data point.

Each item exhibited a correlation of at least .30 with another item; this provided a basis that factorability would be appropriate. The Kaiser-Meyer-Olkin test of sampling adequacy was .83, well above the recommended level of .50 (Yong & Pearce, 2013), and the Bartlett's test of sphericity was significant, $\chi 2(528) = 1483.33$, $p < .001$. Based upon these measures, the exploratory factor analysis was deemed suitable for the 33 item set.

The sample was comprised of 85 unique respondents. While a larger sample size may have been preferable, the work of MacCallum, Widaman, Preacher, and Hong (2001); MacCallum, Widaman, Zhang, and Hong (1999) demonstrated that there is not a one size fits all rule in determining appropriate sample sizes for exploratory factor analyses. In both studies, the authors were able to demonstrate that the level of the communalities is critical to determining the appropriate sample size.

> If communalities are high, then recovery of population factors in sample data is normally very good, almost regardless of sample size, level of overdetermination, or the presence of model error. Thus, samples somewhat smaller than traditionally recommended are likely sufficient when communalities are high. (MacCallum et al., 2001, p. 636)

The average communality of the 33 item set was .64. MacCallum et al. (1999) indicated that the desired level of average communality to be considered high is at least .70. The average communality of this data set fell in between the levels that MacCallum et al. (1999) indicated as high and mid-level. According to the work of MacCallum et al. (1999), given the average communality of this data set, the importance of properly defined factors, with a range of three to seven indicators per factor, through the use of valid and reliable measures was paramount.

Using a variable loading greater than .45 and an indicator of initial eigenvalue greater than one, based upon the Kaiser method (1960), resulted in an initial, nine factor solution, explaining 70.89% of cumulative total variance. Evaluation of the scree plot also indicated that a nine factor solution may be appropriate. The first, second, third, and sixth factors explained 32.57%, 7.20%, 5.90%, and 4.46% of the variance. The solution resulted in a $\chi 2(267) = 250.22$, $p = .76$. Five factors contained less than three measured variables. In light of the scholarship of MacCallum et al. (1999), these five factors were eliminated from the solution. Ultimately, a four factor solution, explaining 50.13% of the cumulative total variance, was retained for confirmatory factor analysis (CFA), see Table 3.3. Importantly, the interpretability of the proposed solution was strong and shared commonalities with the results achieved by other researchers. The proposed factors were named (a) Outlook, (b) Emotional Utilization, (c) Non-Verbal Awareness, and (d) Emotional Awareness - Self.

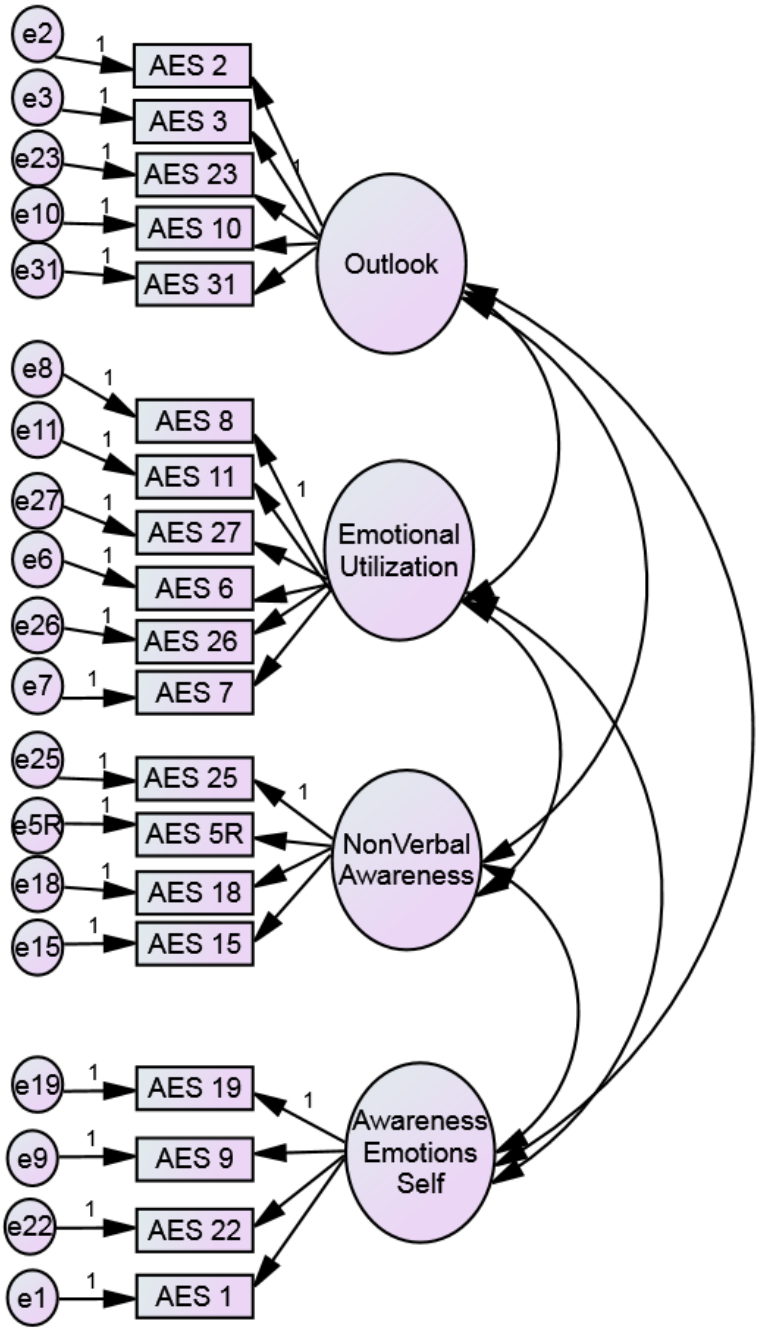
A confirmatory factor analysis with Maximum Likelihood estimation was undertaken using AMOS 23.0, a statistical analysis software application. Initially, a unidimensional model was tested, because the work of Schutte et al. (1998) indicated a unidimensional model. No fit indices indicated an appropriate fit for a one dimensional model. Next, a four-factor model, inclusive of the four factors cited above, was evaluated using Maximum Likelihood estimation. The original four-factor model, see Figure 3.3, did not fit the data. After an initial analysis, the model was modified based upon suggestions from the modification indices and observations from the exploratory factor analysis. Variables AES1, AES2, AES8, AES18, and AES31 were removed from the model. Additionally, a regression line was added from Emotional Utilization/Appraisal to AES15.

Table 3.3
Factor loadings and communalities for Assessing Emotions Scale (Schutte et al., 1998)

	Outlook	Emotional Utilization	Non-Verbal Awareness	Emotional Awareness - Self	Communality	
AES 2 When I am faced with obstacles, I remember times I faced similar obstacles and overcame them	.73				.76	
AES 3 I expect that I will do well on most things I try	.73				.70	*
AES 23 I motivate myself by imagining a good outcome to tasks I take on	.70				.74	*
AES 10 I expect good things to happen	.56				.55	*
AES 31 I use good moods to help myself keep trying in the face of obstacles	.45				.75	
AES 8 Emotions are one of the things that make my life worth living		.65			.60	
AES 11 I like to share my emotions with others		.56			.46	*
AES 27 When I feel a change in emotions, I tend to come up with new ideas		.53			.71	*
AES 6 Some of the major events of my life have led me to re-evaluate what is important and not important		.53			.60	*
AES 26 When another person tell me about an important event in his or her life, I almost feel as though I have experienced this event myself		.49			.64	*
AES 7 When my mood changes, I see new possibilities		.46			.48	*
AES 25 I am aware of the non-verbal messages other people send			.94		.79	*
AES 5 Recode I find it hard to understand the non-verbal messages of other people			.59		.70	*
AES 18 By looking at their facial expressions, I recognize the emotions people are experiencing			.48		.75	
AES 15 I am aware of the non-verbal messages I send to others			.47		.65	*
AES 19 I know why my emotions change				.62	.52	*
AES 9 I am aware of my emotions as I experience them				.52	.62	*
AES 22 I easily recognize my emotions as I experience them				.47	.72	*
AES 1 I know when to speak about my personal problems to others				.47	.53	

Note. Factor loadings < .45 are suppressed. *- question was included in final confirmatory factor analysis.
Maximum Likelihood Analysis with Varimax rotation

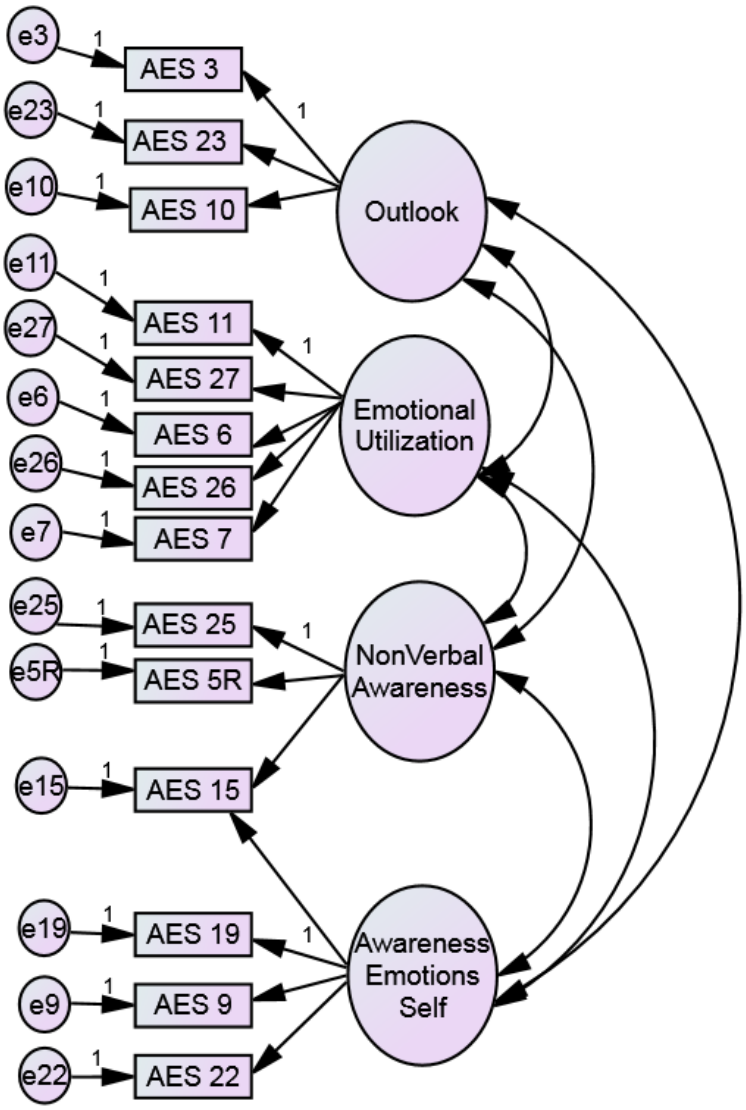
Figure 3.3
Original 4-Factor Model for Confirmatory Factor Analysis



The revised model, see Figure 3.4, displayed test measures that indicated the model was an appropriate fit for the data. Chi-square value for the overall model fit was not significant, the

desired outcome, $\chi 2$ (70) = 82.48, p = .15. These results suggested a fit between the modified model and the data. Using the recommendations established by Hu and Bentler (1999), the CFI = .97, RMSEA = .046, and standardized root mean square residual (SRMR) = .056 .were examined for fit of the model. Each index met the respective cutoff levels recommended by Hu and Bentler (1999) of CFI of .96 or

Figure 3.4
Revised 4-Factor Model for Confirmatory Factor Analysis



greater, RMSEA of .06 or lower, and SRMR of .09 or lower. The revised, four factor solution was retained for Cronbach's alpha analysis. Cronbach's alpha analysis was completed to assess internal reliability and consistency of the items included in each factor. Each factor demonstrated an alpha greater than .70. The four factors were used in representing TEI-IR in the data analysis. A factor summary table is presented in Table 3.4.

Table 3.4
Summary of Mean, Normality Measures, and Alpha for Team Emotional Intelligence-Individual Resource Factors

Factor Name	Mean (SD)	Skewness	Kurtosis	Shapiro-Wilk/ Significance	Cronbach's Alpha
Outlook	4.90 (.28)	.45	-.79	.95/ .14	.75
Emotional Utilization	4.09 (.39)	.26	-.82	.96/.33	.74
Non-Verbal Awareness Self	4.37 (.36)	.20	-.75	.97/.45	.80
Emotional Awareness Self	4.71 (.28)	.39	.47	.97/.53	.71

Note. Skewness standard error = .43; kurtosis standard error = .85. Scale *1- Completely Disagree; 2-Disagree; 3- Somewhat Disagree; 4-Somewhat Agree; 5-Agree; 6-Completely Agree.*

Team emotional intelligence-synergy (TEI-S). This construct was based upon the work and conceptualization of team emotional intelligence as developed by Druskat and Wolff (2001b, 2008). As with most instruments, the work to develop and improve an appropriate scale to measure team emotional intelligence has been an iterative process. The Group Emotional Intelligence Scale (GEIQ) was developed by Hamme (2004) as the first instrument based upon the work of Druskat and Wolff (2001a, 2001b).

The development process initially included 182 items that were then evaluated by Druskat and Wolff and reduced to 78 items. Next, the instrument was evaluated by six psychological services professionals who further examined the questions and offered

improvements. Four subscales of The Hemphill Group Dimensions Description Questionnaire were used for validation. Participants, who had to be at least 19 years of age and who also worked in teams of three or more individuals, included 167 individuals and 34 groups from the U.S., specifically the east coast and mid-west and in wide-ranging business environments. 55% were female, 73% Caucasian, and 80% ranging in age from 21-50. The sample was created through contacts from Rutgers University's School of Communication, Information, and Library Science and through associations of Hamme.

Once the data were collected, a Cronbach's alpha was calculated for each subscale. Questions detracting from the reliability of the subscale were removed and the analysis was completed again. Eight subscales (perspective taking, caring orientation, seeking feedback, creating resources for working with emotion, creating an affirmative environment, organizational awareness, intergroup awareness, and building relationships) demonstrated measures of .70 or greater. Team self-evaluation and seeking feedback were combined into a single subscale as were building relationships/ambassadorial orientation; the effect was a notably improved coefficient of .80 and .86. Confronting members who break norms was not reliable. A correlational analysis was conducted with the Hemphill subscales in order to test for divergent and convergent validity, which Hamme described as "promising" and providing "relevant validity" (2004, p. 35).

The six dimensions of the Druskat and Wolff (2001, 2008) model were tested using confirmatory factor analysis (CFA) with principal components method and oblimin rotation. The analysis confirmed a five-factor structure. Items that did not exhibit loading scores of greater than .40 were removed from the instrument; 35 items were removed. The factors were

reassessed to determine the associated theoretical dimension and non-related items were removed. Cronbach's alpha was then recalculated for each factor; factor reliabilities measured .70 to .83. The dimensions represented in the instrument were Group Regulation of Members, Group Self-Awareness, Group Self-Regulation, Group Social Awareness, and Group Social Skills. Group Awareness of Members was not represented in the CFA.

Peterson (2012) further refined the GEIQ scales with a specific focus on individual regulation factors, improving the items related to caring orientation, confronting members, and group rules. While the published article only noted the refinements to the individual regulation factors, Peterson refined the entire scale and conducted validation research. The researcher engaged through convenience sampling twenty-seven individuals, who included subject-matter and technical experts as well as individuals considered practitioners, to review the revisions, assess the placement of the item within the subscales, and offer suggestions for improvement. The revised instrument and three additional scales included for validation purposes were provided to 370 graduate and undergraduate student participants. Exploratory factor analysis was conducted and, as anticipated, three factors were supported with reliability measures greater than .90 and with convergence measures as expected with comparison instruments.

The most current version of the GEIQ consists of 100 items designed to measure twelve emotionally competent group norms within six dimensions. Each question is rated on a 6-point Likert scale. In an unpublished study by Peterson, each subscale demonstrated a Cronbach's alpha of .88 or higher.

Creating TEI-S. Data were collected via the survey instrument for five GEIQ group norms, see Table 3.5: (a) Creating Affirmative Environment, (b) Creating Resources, (c)

Table 3.5
GEIQ Scale (Peterson, 2012)

#	Question	#	Question
	Creating Affirmative Environment	4	I know how each of my team members likes to work
1	Our team maintains a positive attitude even when things aren't going well	6	My team members know what makes me feel stressed
2	Our team is optimistic about the likelihood of our success	7	I can describe what will cause stress for each of my team members
3	In our team, we feel like nothing can keep us down	8	My team members know how I like to work
4	In our team, we feel like nothing can stop us from accomplishing our goals	9	I can identify the strengths of each of my team members
5	Our team is not easily discouraged by setbacks	10	My team members know my weaknesses
6	In the face of challenges, our team stays optimistic		
7	Our team is upbeat		***Problem Solving***
8	Our team has a positive outlook	1	Our team finds creative solutions to work problems
9	This team has a positive image of its history	2	Our team comes up with ways to solve problems that others might say are out of our control
10	Our team is optimistic about the future of the team	3	We try to predict any work problems that might occur
11	The future looks bright for our team	4	This team anticipates work problems before they arise
12	Our team stays positive when faced with problems	5	We don't wait for others to solve our work problems, we solve them ourselves
	Creating Resources	6	We aggressively search for solutions to work problems
1	In our meetings, we acknowledge the team's mood	7	This team is good at solving work problems
2	Open discussion of feelings such as disappointment or irritation is acceptable in our team		
3	If someone in our team seems blue, we ask them what is wrong		***Team Self-Evaluation***
4	In our team, paying attention to the team feeling is a normal part of our work together	1	We set team goals and discuss how well we are meeting them
5	Discussion of anxiety or worries seems to help our team overcome those feelings	2	We review our mistakes in order to figure out ways to improve
6	If our team's mood seems low, we talk about it	3	We discuss ways to improve our work process
7	Discussion of anger is acceptable in our team	4	We schedule team time to talk about our effectiveness
8	It is acceptable in our team to talk about the way team members are feeling	5	At meetings, we save time to discuss how we are progressing in relation to our goals
9	In our meetings, we try to save time to talk about frustration or other emotions	6	We spend time evaluating our team's work
10	If there is frustration in our team, we talk about it	7	We regularly evaluate the strengths and weaknesses of our team's performance
11	We have humorous ways to acknowledge stress and tension in our team	8	We routinely evaluate our team process to see if it can be improved
12	Our team explicitly talks about team members' feelings		
	Interpersonal Understanding		
1	My team members and I understand each other		
2	My team members know my strengths		
3	I can identify the weaknesses of each of my team members		

Interpersonal Understanding, (d) Problem Solving, and (e) Team Self-Evaluation. These five group norms were selected based upon consideration for the specific professional environment under investigation and with sensitivity to the length of the survey and time for administration. Cronbach's alpha analyses, using the data set at the individual level, were conducted on the items included in each group norm. The alphas for each group norm were greater than .90, indicating strong support for creation of index variables representing each group norm. Table 3.6 summarizes key characteristics of each group norm on an indexed-basis. Missing data at the individual respondent level were replaced with the data set mean prior to export into excel; sixty-six data points data points related to this construct were missing[3].

Mediating Variable- Intra-team Trust (ITT)

Intra-team trust was measured using the scale developed by McAllister (1995) to measure cognitive and affective trust, see Table 3.7. McAllister developed the instrument by reviewing the literature and creating 48 items designed to capture the constructs. Experts in the field were consulted and the items were reduced to 20. The item set was reduced further to include 11 items after exploratory factor analysis and pretests. Cronbach's alpha tests for reliability indicated measures of .91 for cognitive trust items and .89 for affective trust items. Barczak et al. (2010) used six of the ten items in their study whereas Chang et al. (2012) used the McAllister items as a foundation and developed three questions with more concise wording. For the purposes of this study, the full McAllister item set was used with adjustments made to the wording for team setting of the survey.

[3] Twenty questions had one missing data point each, 0.85%. Eighteen questions had two missing data points or 1.7% of responses. Two questions were missing three responses each or 2.5%. One question had four missing responses out of 118, 3.4%.

Table 3.6
Summary of Mean, Normality Measures, and Alpha for Team Emotional Intelligence-Synergy

Factor Name	Mean (SD)	Skewness	Kurtosis	Shapiro-Wilk/ Significance	Cronbach's Alpha
Creating Affirmative Environment	4.28 (.59)	-.59	1.08	.95/.23	.97
Creating Resources	3.83 (.59)	-.38	-.18	.98 /.80	.96
Interpersonal Understanding	4.49 (.39)	-.66	-.21	.95 /.18	.94
Problem Solving	4.36 (.46)	-.15	-.09	.96/.95	.95
Team Self-Evaluation	3.82 (.62)	.01	-.92	.96/.31	.96

Note. Skewness standard error is .43; kurtosis standard error is .85. Scale = 1- Completely Disagree; 2-Disagree; 3- Somewhat Disagree; 4-Somewhat Agree; 5-Agree; 6-Completely Agree.

In order to confirm the appropriateness of combining items in the cognitive trust factor and the affective trust factor, Cronbach's alpha analysis was completed on the items comprising each separately. The results indicated an alpha of .93 for affective trust (ITT-A), greater than .90, indicating strong support for combining the items in each factor to form a single, indexed variable. For cognitive trust (ITT-C), the Cronbach's alpha fell below .70; however, the Cronbach's alpha based upon standardized items was .76 and provided evidence for creating an indexed variable. A summary of the descriptive statistics of the variables is shown in Table 3.8.

Table 3.7
Intra-team trust questions (McAllister, 1995)

#	Question	#	Question
	Affective		*Cognitive*
1	Our team has a sharing relationship. We can freely share our ideas, feelings, and hopes.	1	Team members approach their jobs with professionalism and dedication.
2	I can talk freely to the team about difficulties I am having at work and know that they will want to listen.	2	Given our team members' track records, I see no reason to doubt their competence and preparation for the job
3	We would feel a sense of loss if one of us was transferred and we could not longer work together.	3	I can rely on team members not to make my job more difficult by careless work
4	If I shared my problems with my team members, I know they would respond constructively and caringly.	4	Most people, even those who aren't close friends of team members consider them to be trustworthy.
5	I would have to say that our team members have made considerable emotional investments in our working relationship.	5	Other work associates of mine who must interact with team members consider them to be trustworthy.
		6	If people knew more about team members and their background, they would be more concerned and monitor their performance more closely.*

Note: * Reverse coded.

Table 3.8
Summary of Mean, Normality Measures, and Alpha of Intra-Team Trust

Factor Name	Mean (SD)	Skewness	Kurtosis	Shapiro-Wilk/ Sign *df* 29	Cronbach's Alpha
Affective	4.51 (.51)	-.42	-.81	.92/ .04	.93
Cognitive	4.83 (.33)	-.31	-.71	.97/ .45	.76*

**Note.* Cronbach's alpha based on standardized items. Skewness standard error is .43; kurtosis standard error is .85. Scale = 1- Completely Disagree; 2-Disagree; 3- Somewhat Disagree; 4- Somewhat Agree; 5-Agree; 6-Completely Agree.

Dependent Variable- Team Performance

Podsakoff et al. (2003) noted that common method biases attributable to a common rater may result from when independent and dependent variable data are collected from the same person. The researchers suggest that one method of controlling for this bias is to gather data for independent and dependent variables from different sources. The dependent construct is derived

from an internal management report that reflects an objective measure of an individual's progress towards financial metrics.

Team performance was determined from a stacked ranking report. The report lists each professional advisor (PA) in a stacked, ranked basis based upon indicators determined by leadership. The measurement of PA success was reflective of the work of the entire team as it included measures of new business revenue from credit, insurance, deposits, and investments. The ranking also includes weighting for level of assets under management, qualified referrals to other lines of business, etc. The report as of end-of-year, reflective of an entire twelve months of production, was used as the basis for each team's performance. The ranking indicating the highest level of performance was one. As rankings decreased, performance improved. The Shapiro-Wilk, a statistic that measures normality of a variable with a small sample size, was .95 with a significance level of .17. Skewness was .38 (.43 standard error), and kurtosis was -.93 (.85 standard error). Thus, the dependent construct demonstrated properties of distributional normality.

Control Variables

Control variables are critical variables that may impact the relationship(s) under investigation, but that are not the primary focus of the study (Vogt, 2007). All control variables in the study were assessed at the team level. Variables included client satisfaction, communication frequency, gender composition, positive affect, and years in the industry. A summary of descriptive data for the variables is found in Table 3.9.

- Age composition-Created by averaging each team member's response to the survey question regarding age. *What is your age (21-30, 31-40,41-50,51-60,61-70,70+)*?

- Client satisfaction-This calculation ranges from 0-100. The data were provided via the organization's stacked ranking report. The measure was reflective of average client satisfaction survey results by professional advisor for 2014.
- Communication frequency- self-report measure via the survey. The variable is designed to provide an indication team-level communication frequency. Questions included in the indexed variable follow; the same scale applied to each question. Cronbach's alpha analysis was completed on the four items, with a reading of .98.
    - *On average, how often do you speak with your team's client advisor? (<3 times a week, 3-10 times, 10-20 times, +20 times)*
    - *On average, how often do you email with your team's client advisor?*
    - *On average, how often do you speak with other team members?*
    - *On average, how often do you email with other team members?*
- Gender composition-This measure was an average of responses to teammates' responses indicating if the respondent was male or female. A measure of one equaled an all- male team, a measure of two equaled an all- female team. Measures in-between those numbers indicated if team was majority male or majority female.
- Positive affect-"reflects the extent to which a person feels enthusiastic, active, and alert" (Watson et al., 1988, p. 1063). The Positive and Negative Affect Schedule (PANAS) Short Form (Thompson, 2007) was administered to the sample. The negative effect elements did not present an appropriate level of Cronbach's alpha to support creation of a negative affect variable. The five positive affect items that respondents were asked to assess were "determined, attentive, alert, inspired, and active". The question posed to respondents was *Thinking about yourself and how you normally feel, to what extent do*

you generally feel: The Items were measured using a five-point Likert scale. Cronbach's alpha was .79 for positive affect items. Team members' responses were averaged and reported as team-level measure.

- Years in Industry- Self-reported measure via the survey to the question, *For how many years have you been employed in the Private Wealth Services industry?* Team members' responses were averaged.

Table 3.9
Summary of Control Variables

Factor Name	Mean (SD)	Skewness	Kurtosis	Shapiro-Wilk (Sign)[a]
Client satisfaction[b]	75.69(25.84)	-1.21	1.18	.86/.00
Communication frequency[c]	1.99(.51)	.37	-.83	.96/.35
Gender composition[d]	1.36 (.24)	-.18	-1.02	.92 /.04
Positive affect[e]	3.97(.28)	.12	-.64	.97/.50
Years in industry	18.85 (.5.19)	-.21	-1.15	.95 /.18

[a] *df* = 29. [b] Range is from 0-100. [c]1 = <3 times a week, 2 = 3-10 times a week. [d]1 = All- male, 1> but less than <1.5 – more males than females, 1.5 = Equal proportion of males and females, 1.5> but less than 2< more females than males, 2 = All-female. [e] never 1 2 3 4 5 always.

Data Analysis

The data analysis process was a multi-step, iterative process. The analysis process began with basic preparatory steps and progressed to more complex statistical techniques.

Descriptive Analysis of Data

Once data were collected, the data file was appropriately structured as outlined previously for the analysis. The first step was to evaluate descriptive statistics as well as frequency distributions of the variables included in the study using SPSS 23.0. Data were evaluated by variable for skewness and kurtosis. The distribution of each variable was examined

to assess normality. Correlations (Pearson r) and scatterplots were explored for all variables included in the study. Variables were treated as interval, continuous data for the purposes of inferential analysis.

Analysis of Research Question 1

Is team emotional intelligence-synergy (TEI-S) related to team performance (TP)?

Research question 1 was evaluated by first conducting correlational analysis to determine if a relationship between the variables could be demonstrated. Correlational analysis is appropriate for determining the level of association of two variables (Vogt, 2007). After the correlational analysis was conducted, multivariate, simultaneous, and sequential regressions were performed to evaluate the research question. Multivariate regression allows the researcher to examine the relationships of many variables and make inferences regarding the ability of those variables to predict the value of a dependent variable (Vogt, 2007). First, control variables and then control variables and each factor representing the latent construct of TEI-S were evaluated in relationship to the dependent variable, team performance (TP). Additionally, Tolerance, Variance Inflation Factor (VIF) and collinearity diagnostics were evaluated to assess the threat of multicollinearity.

Analysis of Research Question 2

Are particular factor(s) of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding performance outcomes?

Research question 2 was analyzed using the same techniques as described in analysis of research question 1.

Analysis of Research Question 3

Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrate predictive value in understanding team performance (TP)?

Research question 3 was investigated using correlational analysis as well as multivariate, simultaneous, and sequential regression.

Analysis of Research Question 4

Does intra-team trust (ITT) mediate the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S)?

- *H_{4a}: Intra-team trust (ITT) mediates the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S).*
- *H_{4b}: Intra-team trust (ITT) will be positively related to team emotional intelligence-synergy- (TEI-S).*
    - *H_{4b1}: Cognitive trust (CT) will be positively related to team emotional intelligence-synergy (TEI-S).*
    - *H_{4b2}: Affective trust (AT) will be positively related to team emotional intelligence-synergy (TEI-S).*
    - *H_{4b3}: Affective trust (AT) will be more strongly associated with team emotional intelligence-synergy (TEI-S) than cognitive trust (CT).*

Research question 4 was investigated using correlational analysis as well as multivariate, simultaneous, and sequential regression with a focus on methodology recommended by Baron and Kenny (1986)

Analysis of Research Questions 3 & 4

Research questions 3 and 4 were also evaluated using structural equation modeling (SEM) with SPSS AMOS 23.0. Models were built to test the conceptual model under investigation in light of the regression analyses. SEM was selected, because it is a set of sophisticated statistical techniques that allows for a proposed theory regarding causal associations of variables, including both observed and unobserved (latent) to be tested and confirmed (Blunch, 2013; *Handbook of structural equation modeling*, 2012).

Evaluating the Conceptual Model

All the research questions were examined in a testing of the full conceptual model using structural equation modeling (SEM) with SPSS AMOS 23.0.

Reliability and Validity

Addressing threats to reliability

Threats to reliability were primarily addressed through the selection of the measurement instruments and the care taken in development of these instruments for the measurement of independent and moderating variables. Exploratory factor analysis and confirmatory factor analysis for TEI-IR, as well as Cronbach's alpha Analyses for TEI-IR and other indexed variables, were conducted as explained as an attempt to strengthen the understanding of the reliability of the measurement tools for this particular study.

Addressing threats to validity

Threats to validity were expected to be more numerous for this study than threats to reliability. Content and construct validity were critical issues and were addressed by surveying the literature and determining the measurement instruments that have been developed, structured, and evaluated in a manner to address these concerns. All measurement instruments were publicly available scales.

Self-selection effects and non-response bias might have emerged as issues. The research design included multiple attempts to encourage completion of the survey.

Attrition effect was a serious concern in this study. Given that the performance evaluation and incentive cycle are delivered in the months of February and March, there was a concern that PA positions could be vacated. This would have reduced the number of teams eligible for the study. There was no direct action that could be taken to limit this threat to validity.

To allow for analysis of common source bias using the Measured Method Variable Model, this study included indicators of positive affect developed by Thompson (2007). Additionally, the dependent variable was structured to be an objective, non self-report measure to limit the common rater bias that could have emerged from using both independent and dependent constructs collected through self-report instruments.

Methodology Summary

This chapter has presented an overview of the study methodology employed to study the relationship of team emotional intelligence to performance in a Private Wealth Environment. The Conceptual model and research questions were highlighted. The setting, sample, and survey administration were also described.

Much of the chapter was dedicated to describing the process of operationalizing the independent and mediating variable constructs. Team emotional intelligence-synergy required both EFA and CFA analysis with four factors emerging from the data. Those factors were (a) Outlook, (b) Emotional Utilization, (c) Non-Verbal Awareness, and (d) Emotional Awareness-Self, and they were key inputs into the data analysis. Team emotional intelligence-synergy factors as well as intra-team trust variables, cognitive and affective trust were shown to have appropriate reliability for creating index variables. The steps required to create team-level measures was also explained.

Finally, the data analysis techniques used to answer the research questions and evaluate the hypotheses was previewed. Multivariate, simultaneous and sequential regression, and structural equation modeling were critical data techniques highlighted. The data analysis plan was presented along with a rationale for each selected method. And, finally, study-level issues surrounding reliability and validity were addressed. In the chapter that follows, each element of the data analysis is presented in a more expansive manner.

CHAPTER 4: DATA ANALYSIS

This chapter will provide a thorough examination of the data analysis techniques used to evaluate and assess the study's research questions and hypotheses. First, a detailed description of the study sample is provided with a focus on key characteristics and demographics of the teams included in the study. From a description of the sample, the chapter will move to an explanation of the data analysis used to evaluate the study's four research questions: (1) Is team emotional intelligence-synergy (TEI-S) related to team performance (TP)?; (2) Are particular factor(s) of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding performance outcomes?; (3) Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrate predictive value in understanding team performance (TP)?; (4) Does intra-team trust (ITT) mediate the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S)? The final section of the chapter will evaluate both research questions three and four by using structural equation modeling. Next, the characteristics of the sample are reviewed to provide a foundational understanding of the teams explored in the analysis.

Description of the Sample

The sample contained eighty-five unique respondents contributing to twenty-nine teams. Of the unique respondents, 65.9% were male and 30.6% female, and 73.7% were between the ages of 41-and 60. Of the fifty-six specialists who responded to the survey, thirty-three specialists were a member of more than one team.

Teams represented four of the institution's geographic divisions, with two divisions accounting for sixty-nine percent of team responses and another having no teams represented in

the final analysis, see Table 4.1. The twenty-nine professional advisors included in the sample reported to thirteen supervisors. Teams tended to be composed of three or four members, with sixty-nine percent of the sample registering membership at these combined levels, see Table 4.2. Six teams were composed of all males; no teams were composed of all females. In 58.5% of team configurations, the number of males was greater than the number of females on the team. In 17.2% of teams, the number of males and females were equal, and in 24.1% of the teams, the number of females was greater than the number of males, see Table 4.3. The average years of experience in the Private Wealth industry per team was 18.85 years, and 93.1% of the teams were served by a professional advisor who had been in the job role for more than thirty-six months.

Table 4.1
Team Count by Division

Division	Frequency	Percent	Cumulative Percent
1	7	24.1	24.1
2	10	34.5	58.6
3	10	34.5	93.1
4	2	6.9	100.0
5	0	0	100.0
Total	29	100.0	

Table 4.2
Team Count by Number of Team Members

#	Frequency	Percent	Cumulative Percent
3	10	34.5	34.5
4	10	34.5	69.0
5	6	20.7	89.7
6	3	10.3	100.0
Total	29	100.0	

Table 4.3

Team Count by Gender Composition

Scale	Composition	Frequency	Percent	Cumulative Percent
1.00	All Male	6	20.7	20.7
1.17		1	3.4	24.1
1.20		1	3.4	27.6
1.25		2	6.9	34.5
1.33		5	17.2	51.7
1.40		2	6.9	58.6
1.50	Equal Male/Female	5	17.2	75.9
1.60		3	10.3	86.2
1.67		2	6.9	93.1
1.75		2	6.9	100.0
2.00	All Female	0	0.0	100.0
Total		29	100.0	

Analysis of Research Question 1

Is team emotional intelligence-synergy (TEI-S) related to team performance (TP)?

Beginning Steps

The portion of the conceptual model tested by research questions one and two is shown in Figure 4.1. The first step in evaluating research question one was to conduct a correlational analysis, see Table 4.4. The analysis demonstrated that one TEI-S factor-Creating Affirmative Environment (CAE) was significantly and positively related to team performance (TP). The two variables were moderately correlated, $r(27) = -.43$, $p = .022$. The team performance measure (TP) was structured such that as stacked ranking positions decreased, performance improved. Thus, to be ranked first on the report was indicative of the best level of team performance.

Table 4.4

Summary of Means, Standard Deviations, and Correlations for Team Performance and TEI-S Factors

	Mean	SD	Team Performance[a]	Creating Affirmative Environment	Creating Resources	Interpersonal Understanding	Problem Solving	Team Self-Evaluation
Team Performance (TP)	37.69	20.63	1.00					
Creating Affirmative Environment (CAE)	4.27	.58	-.43*	1.00				
Creating Resources (CR)	3.83	.59	-.29	.72**	1.00			
Interpersonal Understanding (IU)	4.49	.39	-.20	.83**	.77**	1.00		
Problem Solving (PS)	4.36	.46	-.27	.77**	.77**	.77**	1.00	
Team Self-Evaluation (TSE)	3.82	.62	-.30	.85**	.88**	.82**	.75**	1.00

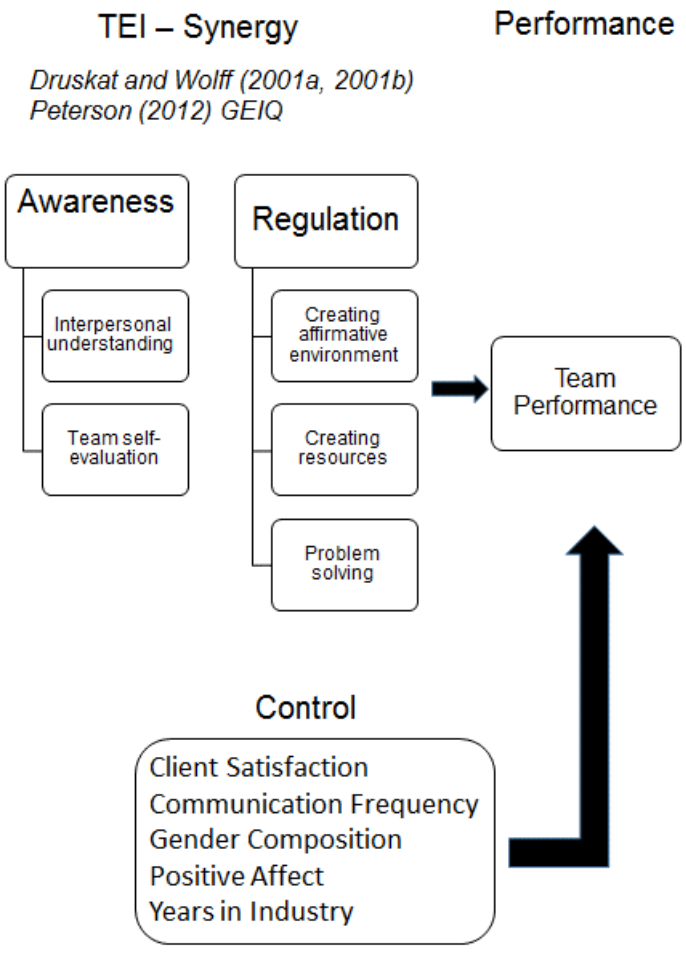
Note: 1- Completely Disagree; 2-Disagree; 3- Somewhat Disagree; 4-Somewhat Agree ; 5-Agree ; 6-Completely Agree

[a]A negative correlation demonstrates a positive impact on performance given that as leaderboard positions decreases performance improves.

*p < .05 level, two-tailed. **p < .01 level, two-tailed.

Figure 4.1

Portion of Conceptual Model Investigated by Research Questions 1 & 2



A negative correlation demonstrated a positive real relationship; as TEI-S factor-Creating Affirmative Environment moved higher, stacked ranked positions decreased. Exploration of research question one expanded with the use of multivariate, simultaneous and sequential regression.

Multivariate, Simultaneous, and Sequential Regression Analysis

Control variables. A regression analysis was performed inclusive of each control variable: (a) client satisfaction, (b) communication frequency, (c) gender composition, (d) positive affect, and (e) years in the private wealth industry. The control variables were evaluated with the dependent variable, TP. The model was statistically significant $r^2 = .36$, F-value, 2.64, $p = .05$; however, the model appeared to have multicollinearity issues as coefficient standard errors were large and the collinearity diagnostics demonstrated a potential issue with the variable, positive affect. Therefore, positive affect was removed from the model, and another regression analysis was completed. The resulting model was not statistically significant and it continued to show signs of multicollinearity. Gender was removed based upon the collinearity diagnostics showed a variance proportion reading on the fifth dimension of .85. The analysis was completed with the remaining variables, and the resulting model was not significant. After an initial examination of control variables, predictor variables were evaluated.

Predictor variables. To better understand the relationship of TEI-S to team performance, (TP) a series of models with only predictor, TEI-S variables, was analyzed, assessed and adjusted as follows.

1. The first regression, inclusive of (a) Creating Affirmative Environment (CAE), (b) Creating Resources (CR), (c) Interpersonal Understanding (IU), (d) Problem Solving (PS), and (e) Team Self-Evaluation (TSE) was not significant. The

regression results demonstrated signs of multicollinearity. Within the collinearity diagnostics, the variance proportion for IU was .89 on the sixth dimension, with a condition index of 68.48. Therefore, it was removed from the analysis.

2. The next regression, without IU, was not statistically significant. The variance proportion for TSE indicated .72 on the fifth dimension with an Eigenvalue of .002 and a Condition Index of 57.12. Therefore, it was removed. The regression analysis conducted post removal was not statistically significant.
3. Examination of the collinearity diagnostics indicated that on the fourth dimension with Eigenvalue of .002 and a Condition Index value of 40.28 PS demonstrated a variance proportion of 1. Therefore, PS was removed from consideration. The resulting model was not statistically significant.

Control and predictor variables. At this point, a series of regression analyses inclusive of the all predictor variables and the remaining control variables, (a) client satisfaction, (b) communication frequency, and (c) years in the private wealth industry, was completed. This model was not statistically significant, and it appeared to have multicollinearity issues based upon the size of the coefficient standard errors and the collinearity diagnostics.

Given that the number of control and predictor variables had been reduced significantly in the prior steps, the next step was to evaluate a series of models, inclusive of the remaining predictor and control variables; (a) CAE, (b) CR, (c) client satisfaction, (d) communication frequency, and (e) years in private wealth industry. The analysis steps follow.

1. The first model was statistically significant, $F(5,23) = 2.86$, $p = .038$. However, the collinearity diagnostics indicated multicollinearity issues. On the sixth dimension, with an Eigenvalue of .004 and a Condition Index of 37.85, the variance proportion for CR was .89. Therefore, CR was removed from the analysis. The resulting model was significant with a $F(4,24) = 2.92$, $p = .042$.
2. Concerns persisted around the relationship of communication frequency and years in the private wealth industry given the two were significantly correlated at $r(27) = .39$, $p = .039$. Therefore, communication frequency was removed. Communication frequency was chosen for removal over years in the private wealth industry because it had been derived from an index that was categorically-based, whereas years in the private wealth industry had been collected as a ratio variable.
3. The final model, with predictor variable TEI-S factor-CAE and control variables, client satisfaction and years in the private wealth industry, was significant $F(3,25) = 3.92$, $p = .02$, with a R^2 of .32. TEI-S factor-Creating Affirmative Environment (CAE) displayed the only significant regression coefficient, and it was significant predictor of team performance with a coefficient of -17.77, $p = .007$. Table 4.5 highlights the results of the final model.

Relating Analysis Results to the Research Question

In relation to research question 1, the final model derived from the regression analysis demonstrated that team emotional intelligence-synergy (TEI-S) was related to team performance (TP). Specifically, TEI-S factor-Creating Affirmative Environment (CAE) was a significant and meaningful predictor of team performance (TP). Importantly, CAE was significant in every

model analyzed, regardless of combination of variables. In the final model, for each unit of improvement in TEI-S factor-Creating Affirmative Environment, team performance improved by 17.78 positions in the stacked ranked results. The regression model explained 32% of the variance in team performance (TP). No other factors of team emotional intelligence-synergy (TEI-S), whether included in the multivariate analysis or alone, were found to be significant and meaningful predictors of team performance (TP).

Table 4.5
Predictors of Team Performance (TP)

Variables	*B*	t	Sig.	95% CI
Constant	80.02**	2.96	.007	[24.26 - 135.79]
Client Satisfaction	0.19	1.45	.159	[-.08 - .47]
Years in Private Wealth Industry	1.00	1.44	.163	[-.43 - 2.44]
Creating Affirmative Environment	-17.77**	2.92	.007	[-30.30 - -5.29]
R^2	.32			
Adjusted R^2	.24			
F	3.92			
Sig.	.02			
df = 3,25				
n=29				

*$p < .05$. **$p < .01$.

Analysis of Research Question 2

Are particular factor(s) of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding team performance (TP) outcomes?

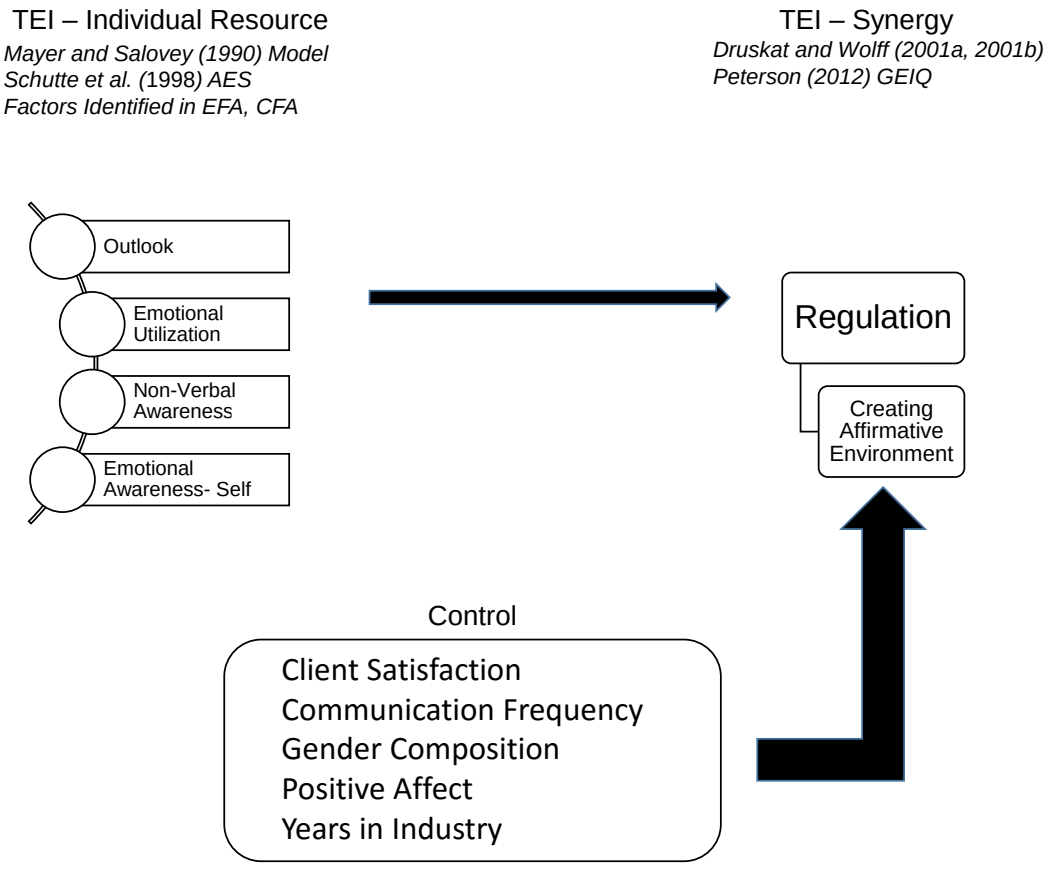
Research question 2 was answered through the analysis described in relation to research question 1. Given that only one TEI-S factor, Creating Affirmative Environment, was significant in explaining team performance (TP), it is by default the most meaningful TEI-S factor in understanding team performance.

Analysis of Research Question 3

Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrated predictive value in understanding team performance (TP)?

The next segment of the conceptual model that was evaluated is shown in Figure 4.2. The analysis focused on understanding the relationship between TEI-IR factors and TEI-S factor-Creating Affirmative Environment (CAE). A process of sequential regressions was followed to assess the conceptual model. The steps performed in the analysis follow.

Figure 4.2
Portion of Conceptual Model Element Investigated in Research Question 3



Regression Analysis

1. All control variables were analyzed with the dependent variable, TEI-S factor-CAE. The model was statistically significant $F(6,22) = 3.88$, $p = .009$, with a R^2 of .51, positive affect was also significant. The regression demonstrated signs of multicollinearity, low eigenvalues and elevated values for the condition index in the collinearity diagnostics. Both age and gender composition were removed from the analysis due to the variance portions in the collinearity diagnostics.
2. The remaining control variables and the dependent variable TEI-S factor-CAE were analyzed. The model was significant, $F(4,24) = 3.20$, $p = .031$, with a R^2 of .35. Positive affect was significant. As in the analysis of questions 1 and 2, level of communication was removed due to the level of correlation with years in the industry.
3. This model was significant as well, $F(3,25) = 3.33$, $p = .036$, with a R^2 of .29. The regression coefficient of positive affect was significant $p = .014$.
4. Next, a model with client satisfaction, positive affect, and years in the industry as well as each of the TEI-IR factors was assessed. While the model was significant, $F(7,21) = 8.42$, $p < .001$, with a R^2 of .74, it also showed signs of multicollinearity. Given that TEI-IR factors, Outlook, EA, and NV were significantly correlated with other TEI-IR factors, the variables were removed.
5. The resulting model was significant, $F(5,23) = 7.74$, $p < .001$, with a R^2 of .63. Again, multicollinearity presented as a possible issue. Given that positive affect was significantly correlated with TEI-IR factor-EU, $r(27) = .37$, $p < .001$, it was removed from the analysis.

6. The final model was significant, $F(3,25) = 11.74$, $p < .001$, with a R^2 of .59. The regression coefficients for TEI-IR factor-Emotional Utilization, 1.12, and years in private wealth industry, .05, were significant at $p < .001$ and .002 levels. The final regression results are presented in Table 4.6

Table 4.6
Predictors of Creating Affirmative Environment

Variables	*B*	t	Sig.	95% CI
Constant	-1.47	-1.4	.15	[-3.53 - .59]
Client satisfaction	0.00	.90	.38	[-.004 - .009]
Years in industry	0.05**	3.43	.002	[.021 - .083]
Emotional Utilization	1.12***	5.49	.000	[.697 - 1.54]
R^2	.59			
Adjusted R^2	.54			
F	11.74			
Sig.	< .001			
df = 3,25				
n=29				

*$p < .05$. **$p < .01$. ***p < .001.

Relating Analysis Results to the Research Question

The analysis demonstrated a relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S). Specifically, TEI-IR factor-Emotional Utilization demonstrated a significant and meaningful predictive relationship to TEI-S factor-Creating Affirmative Environment (CAE). Years in industry also displayed a significant relationship to TEI-S factor-CAE; however, given the size of the coefficient the relationship is not practically meaningful.

Analysis of Research Question 4

Does intra-team trust (ITT) mediate the relationship between TEI-individual resource (TEI-IR) and TEI-synergy (TEI-S)?

- *H_{4a}: Intra-team trust (ITT) mediates the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S).*
- *H_{4b}: Intra-team (ITT) trust will be positively related to team emotional intelligence-synergy (TEI-S).*
  - *H_{4b1}: Cognitive trust (CT) will be positively related to team emotional intelligence-synergy (TEI-S).*
  - *H_{4b2}: Affective trust (AT) will be positively related to team emotional intelligence-synergy (TEI-S).*
  - *H_{4b3}: Affective trust (AT) will be more strongly associated with team emotional intelligence-synergy (TEI-S) than cognitive trust (CT).*

The portion of the conceptual model evaluated in this section is found in Figure 4.3

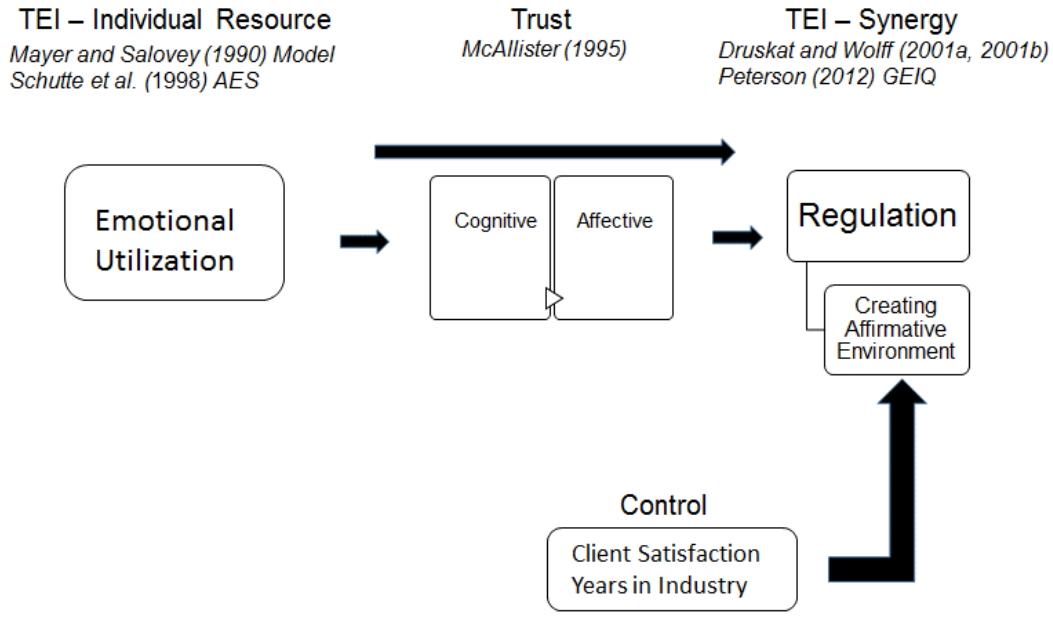
Regression Analysis

Research question 4 was evaluated using multivariate regression analysis with the methodology established by Baron and Kenny (1986). The steps performed in the analysis follow.

1. **The independent variable TEI-IR factor-Emotional Utilization was evaluated with the dependent variable intra-team trust (ITT).** EU, the only TEI-IR

factor found to be significant in relationship to TEI-S factor-CAE was also evaluated as a predictor variable of the two elements of ITT, cognitive trust, and affective trust. The regression analyses with ITT and then cognitive trust as the dependent variable, see Table 4.7- models 2 & 3, were not significant; however, the regression equation with affective trust as the dependent variable, model 4, was significant, $F(1,27) = 5.36$, $p = .028$, with a R^2 of .17.

Figure 4.3
Portion of Conceptual Model Element Investigated in Research Question 4



2. **The second step in the Baron and Kenny (1986) process was to regress TEI-S factor-Creating Affirmative Environment as the dependent variable and TEI-IR factor-Emotional Utilization, as the predictor variable.** This step was

conducted in the analysis for question 3. The results are found in Table 4.7, model 1.

3. **The third step included analysis of TEI-S factor-Creating Affirmative Environment as the dependent variable, TEI-S factor-Emotional Utilization as the predictor variable, as well as the mediator variable.** Therefore, several regression models were analyzed given the outcome of step one.
    a. First, TEI-S factor-Creating Affirmative Environment as dependent variable and (a) ITT, (b) TEI-IR factor-Emotional Utilization, (c) client satisfaction, and (d) years in industry were analyzed. The regression was significant, $F(4,24) = 20.00$, $p < .001$, with a R^2 of .77, see Table 4.7, model 9. The regression coefficients of Emotional Utilization, $p < .001$; intra-team trust, $p < .001$; and years in industry, $p = .001$ were significant. TEI-IR factor-Emotional Utilization displayed the largest impact on TEI-S factor-Creating Affirmative Environment with a standardized beta of .59.
    b. A second regression was completed with TEI-S factor-Creating Affirmative Environment as dependent variable and (a) cognitive trust (CT), (b) affective trust (AT), (c) TEI-IR factor-Emotional Utilization, (d) client satisfaction, (e) and years in industry. The regression was significant, $F(5,23) = 15.74$, $p < .001$, with a R^2 of .77. The regression coefficients of Emotional Utilization, $p < .001$; affective trust, $p = .02$; and years in industry, $p = .002$ were significant, see Table 4.7, model 11.

i. Another set of regressions was explored to understand better the relationship between CT, AT, and dependent variable, TEI-S factor-Creating Affirmative Environment.

1. CT as predictor variable and CAE as dependent variable. The model and regression coefficient for CT were significant. The results are found in Table 4.7, model 5.
2. AT as predictor variable and CAE as dependent variable. The model and regression coefficient for AT were significant. The results are found in Table 4.7, model 6.
3. CT and AT as predictor variables and CAE as dependent variable. The model and regression coefficient for AT were significant. The results are found in Table 4.7, model 7.
4. A regression was completed with TEI-S factor-CAE as dependent variable and (a) TEI- IR factor-EU, (b) CT, (c) client satisfaction, and (d) years in industry. The regression was significant, $F(4,24) = 14.84$, $p < .001$, with a R^2 of .71. The regression coefficients of TEI-IR factor-Emotional Utilization, $p < .001$; cognitive trust, $p = .003$; and years in industry, $p = .001$ were significant, see Table 4.7, model 10.

c. Finally, cognitive trust with affective trust as the dependent variable were analyzed. The regression was significant, $F(1,27) = 19.83$, $p < .001$, with

a R^2 of .42. The regression coefficient of cognitive trust was significant, $p < .001$, see Table 4.7, model 8.

Relating Analysis to Question 4

Research question four was a complex question to analyze through a multi-step process. Table 4.7 and Figure 4.4 summarize the results.

H4a. In the analysis, TEI-IR was represented through Emotional Utilization, and TEI-S was represented through Creating Affirmative Environment, based upon the results to research questions 1 and 3. The analysis demonstrated AT did partially mediate the relationship between TEI-IR factor-Emotional Utilization and TEI-S factor-Creating Affirmative Environment. The partial mediation was shown over several steps.

1. Models 4 and 5 demonstrated TEI-IR factor-EU was a significant predictor of TEI-S factor-CAE.
2. Model 3 demonstrated TEI-IR factor-EU was a significant predictor of AT.
3. Next, Model 10 demonstrated both TEI-IR factor-EU and AT were significant and meaningful predictors of TEI-S factor-CAE. The direct impact of TEI-IR factor-EU on TEI-S factor-CAE was decreased in the presence of AT, which was an indication of partial mediation (Baron & Kenny, 1986).
4. AT demonstrated a significant, direct relationship on TEI-S factor-CAE in Model 6.

H4b. A second set of hypotheses was presented in relation to the relationships of intra-team trust dimensions to TEI-synergy (TEI-S) as measured through Creating Affirmative

Environment. As is shown in Models 5 and 10, CT has a significant positive relationship to Creating Affirmative Environment as evidenced in the coefficient intercepts of .63 and .12, both are significant at the $p < .01$ level. Both regression models are significant, the first at the $p < .001$ and the second at $p = .01$.

Next, the relationship of AT to TEI-S factor-Creating Affirmative Environment was explored. Models 6 and 11 demonstrated affective trust was a significant predictor of Creating Affirmative Environment. In both models, AT demonstrated a positive regression coefficient, at $p < .01$ and $p < .001$ levels. A positive relationship between affective trust and TEI-S is supported through the analysis.

The relationship of the two intra-team trust dimensions to TEI-S factor-Creating Affirmative Environment as is demonstrated in Models 7 and 11 was more complex than a direct relationship. When affective trust and cognitive trust were both included in the regression analyses as predictor variables, cognitive trust changed from being a significant predictor variable to not being a significant predictor variable. This pattern was indicative of a mediated relationship between cognitive trust, affective trust, and team emotional intelligence-synergy through factor-CAE (Baron & Kenny, 1986). Given the presence of a mediated relationship between the two variables, the hypothesis that affective trust would be more strongly associated with TEI-S was supported.

Analysis of Research Questions 3 & 4 using SEM

Additional analysis was conducted on research questions three and four via structural equation modeling in AMOS 23. SEM was selected, because it is a set of sophisticated statistical techniques that allows for a proposed theory regarding causal associations of variables, including both observed and unobserved (latent) to be tested and confirmed (Blunch, 2013; *Handbook of*

structural equation modeling, 2012). The tools in AMOS also enable identification of the mediation effect as well as estimates regarding the impact of mediation impacts (Cheung & Lau, 2008). Maximum Likelihood with bootstrapping, with 1000 samples, was used for the analysis (Cheung & Lau, 2008). The bootstrapping methodology was utilized in order to estimate a confidence interval around the indirect effect calculation.

The model shown in Figure 4.4 was recreated in AMOS and tested as shown in Figure 4.5. This model displayed a probability level of .31; however, the RMSEA of .086 was not within the limits recommended by (Hu & Bentler, 1999). Given the relative minimal impact of years in industry in the regression analyses conducted previously and the limitations of sample size given the number of variables in the model, years in industry was removed from the analysis.

Figure 4.4
Results from Examination of Research Question 4

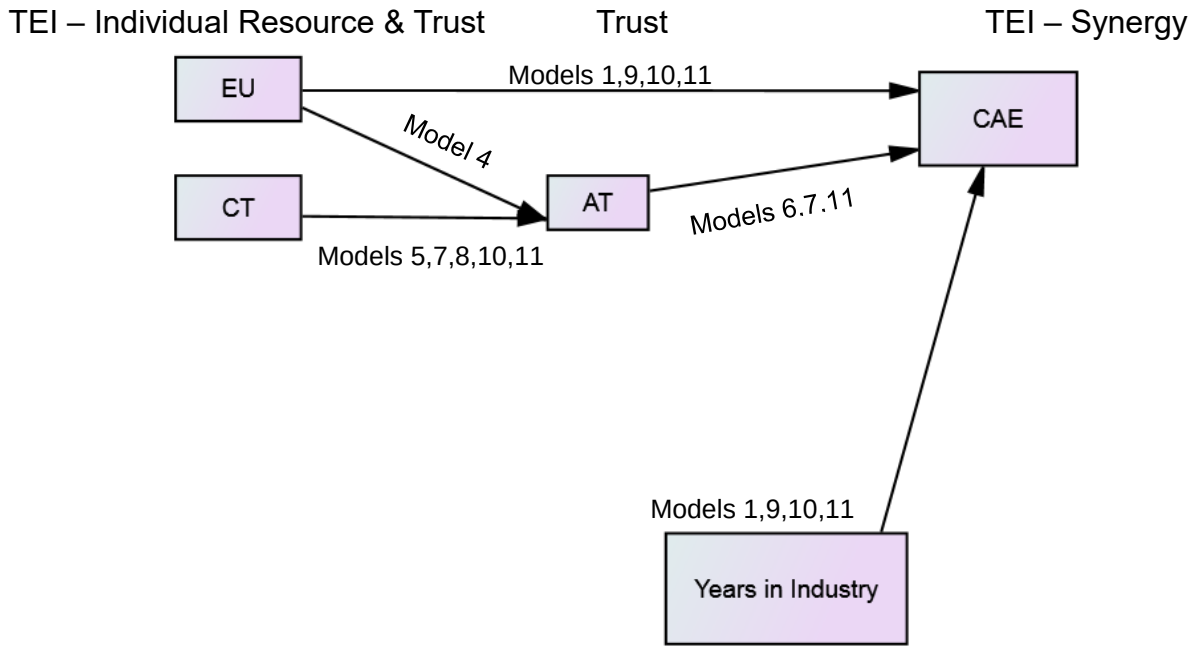


Table 4.7

Baron and Kenney (1986) Mediation Process

Variables	Model 1 *B*	Model 2 *B*	Model 3 *B*	Model 4 *B*	Model 5 *B*	Model 6 *B*	Model 7 *B*	Model 8 *B*	Model 9 *B*	Model 10 *B*	Model 11 *B*
Dependent Variables											
IntraTeam Trust		X									
Cognitive trust			X								
Affective trust				X				X			
Creating Affirmative Environment	X				X	X	X		X	X	X
Constant	-1.47	3.47	4.42***	2.32**	0.35	0.66	0.62	-0.34	-3.67***	-4.15**	-3.26**
Client satisfaction	0.00								0.00	0.00	0.00
Years in Industry	0.052**								0.04**	0.049**	0.04**
Emotional Utilization	1.12***	0.30	0.10	0.53*					0.88***	1.04***	0.84***
Intra-team trust overall									0.71***		
Cognitive trust					0.81**		0.01	1.00***		0.63**	0.24
Affective trust						0.80***	0.80***				0.43**
R^2	.59	.10	.01	.17	.21	.50	.50	.42	.77	.71	.77
Adjusted R^2	.54	.06	-.02	.14	.19	.48	.46	.40	.73	.66	.73
F	11.74	2.84	.39	5.36	7.34	26.5	12.76	19.83	20.00	14.84	15.74
Sig.	<.001	.104	.540	.028	.012	<.001	<.001	<.001	<.001	<.001	<.001
df	3,25	1,27	1,27	1,27	1,27	1,27	2,26	1,27	4,24	4,24	5,23
n=29											

*$p < .05$. **$p < .01$. ***$p < .001$.

After years in the industry was removed, the analysis was repeated. The results confirmed the results of the regression analysis outlined previously. The best fit model to the data is shown in Figure 4.6. Chi-square value for the overall model fit was not significant, outcome, χ^2 (2) = .47, p = .495; this result suggested a fit between the model and the data. The fit indices, CFI = 1.0, RMSEA = .000, and SRMR = .019 were indicative a good fit of the model. Each index met the respective cutoff levels recommended by Hu and Bentler (1999); CFI of .96 or greater, RMSEA of .06 or lower, and SRMR of .09 or lower; see Table 4.8 for a complete summary of the model data.

Additional models were evaluated in AMOS. These models added in the remaining TEI-IR factors of Outlook, Non-Verbal Awareness, and Emotional Awareness-Self. None of the models tested achieved the same level of good fit as determined by level of significance and measures of model fit.

Figure 4.5
SEM Model as Derived from Figure 4.4

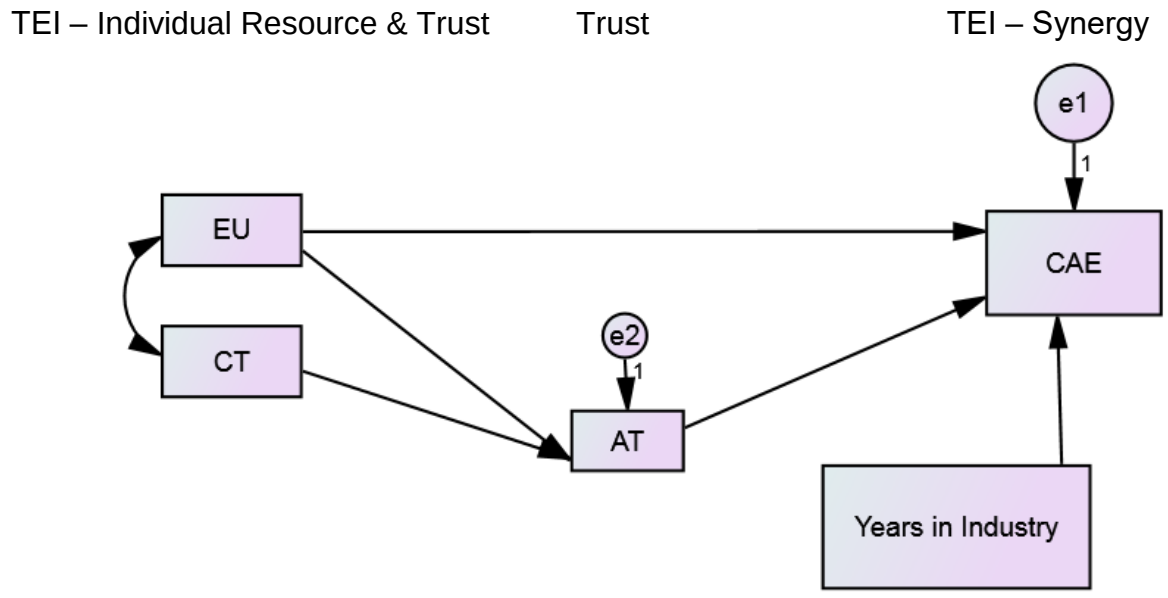


Figure 4.6
Final SEM Model for Research Questions 3 & 4 Analysis

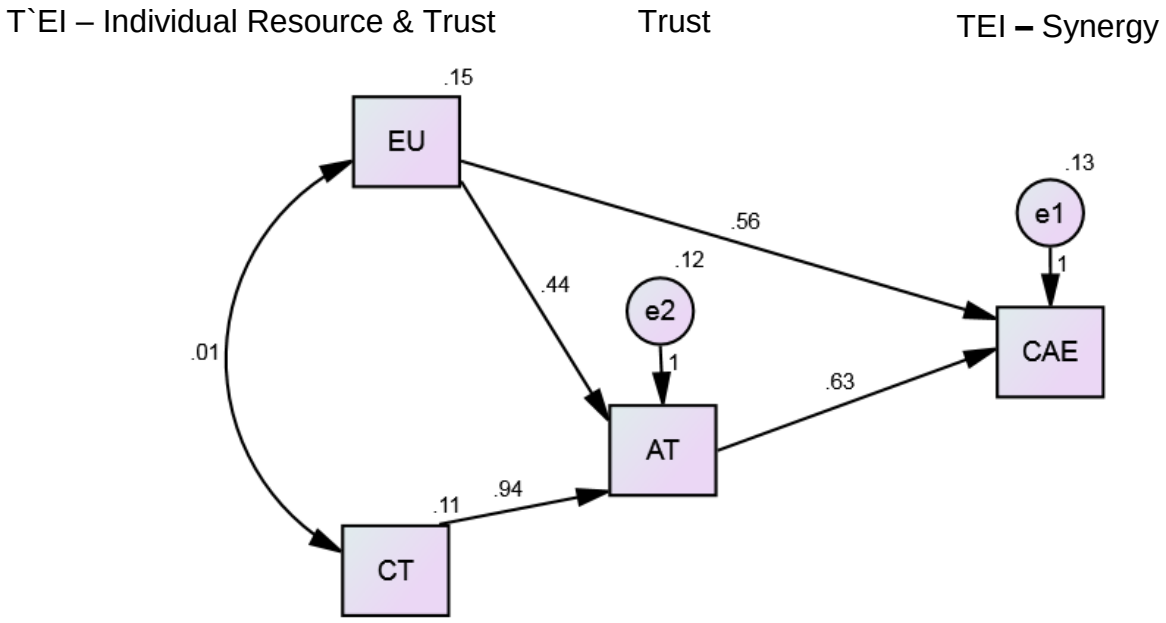


Table 4.8
Regression Weights, Variance, Covariance, and Correlation Levels for Model in Figure 4.6

Regression Weights	*Unstandardized*	*Standardized*	*p*
Emotional Utilization → Creating Affirmative Environment	.56	.38	.004
Emotional Utilization → Intra-Team Trust-Affective	.44	.33	.010
Intra-Team Trust - Cognitive → Intra-Team Trust- Affective	.94	.61	***
Intra-team trust- Affective → Creating Affirmative Environment	.63	.55	***

Variance	*Estimate*	*Standard Error*	*p*
Emotional Utilization	.15	.04	***
Intra-Team Trust- Cognitive	.11	.03	***
e1	.13	.03	***
e2	.12	.03	***

Covariances	*Estimate*	*Standard Error*	*p*
Emotional Utilization with Intra-Team Trust - Cognitive	.02	.02	.533

Correlations	*Estimate*
Emotional Utilization with Intra-Team Trust - Cognitive	.12

Note: $\chi^2(2) = .465$, $p = .495$; CFI = 1.0; RMSEA = .000; SRMR = .019
*** indicates $p < .001$.

In relation to research question 3, the SEM analysis demonstrated TEI-IR factor-Emotional Utilization had significant and meaningful regression coefficient (.56, $p = .004$), predictive value in understanding TEI-S factor-Creating Affirmative Environment.

In relation to research question 4, the analysis indicated that the mediation effect between TEI-IR factor-Emotional Utilization to TEI-S factor-Creating Affirmative Environment, through affective trust was significant. The indirect effect was estimated at .28 with a 95% bias-corrected confidence interval calculated such that the lower bound of .07, upper bound of .64, and a $p = .01$. This part of the analysis, as did the regression analyses previously highlighted, supported H_{4a} and H_{4b2}

The path from cognitive trust to TEI-S factor-Creating Affirmative Environment was also indicative of significant mediation by affective trust. This was an un-hypothesized mediation through AT, though it had been anticipated in H_{4b2} that affective trust would have a stronger association with team emotional intelligence-synergy (TEI-S) than CT. The indirect effect was estimated at .59, with a 95% biased-corrected interval with a lower bound of .21 and an upper bound of .98, with a $p = .002$. The results from the analysis support $H_{4b1;}$ CT is positively related to team emotional intelligence, though through mediation. In support of H_{4b2}, AT was found to be positively related to team emotional intelligence-synergy factor-CAE as evidenced in the regression coefficient .63 at $p < .000$. And finally, H_{4b3} was supported through the confirmation that AT has a strong, direct relationship with TEI-S factor-CAE whereas CT has a mediated relationship to TEI-S factor-CAE.

Evaluating the Conceptual Model

In an effort to examine the conceptual model as revised for findings in the research questions, the SEM model in Figure 4.7 was evaluated. Chi-square value for the overall

model fit was not significant, the desired outcome, χ^2 (4) = 1.03, p = .906. This result suggested a fit between the model and the data. Using the recommendations established by Hu and Bentler (1999), the CFI = 1.0, RMSEA = .000, and SRMR = .03 were indicative a good fit of the model. Each index met the respective cutoff levels recommended by Hu and Bentler (1999) of CFI of .96 or greater, RMSEA of .06 or lower, and SRMR of .09 or lower; see Table 4.9 for a complete summary of model data.

Importantly, the analysis indicated that for each unit of improvement in team emotional intelligence-synergy factor-Creating Affirmative Environment, team performance was impacted by fifteen positions. Team emotional intelligence-individual resource factor-Emotional Utilization and affective trust were found to have direct effects on team emotional intelligence – synergy factor-Creating Affirmative Environment. Affective trust partially mediated the relationship between TEI-IR factor-EU and TEI-S factor-CAE and almost substantially mediated the relationship between cognitive trust and TEI- S factor-CAE. The SEM analysis supports an affirmative response to each research question.

Figure 4.7
Testing of Conceptual Model via SEM

TEI – Individual Resource & Trust Trust TEI – Synergy Performance

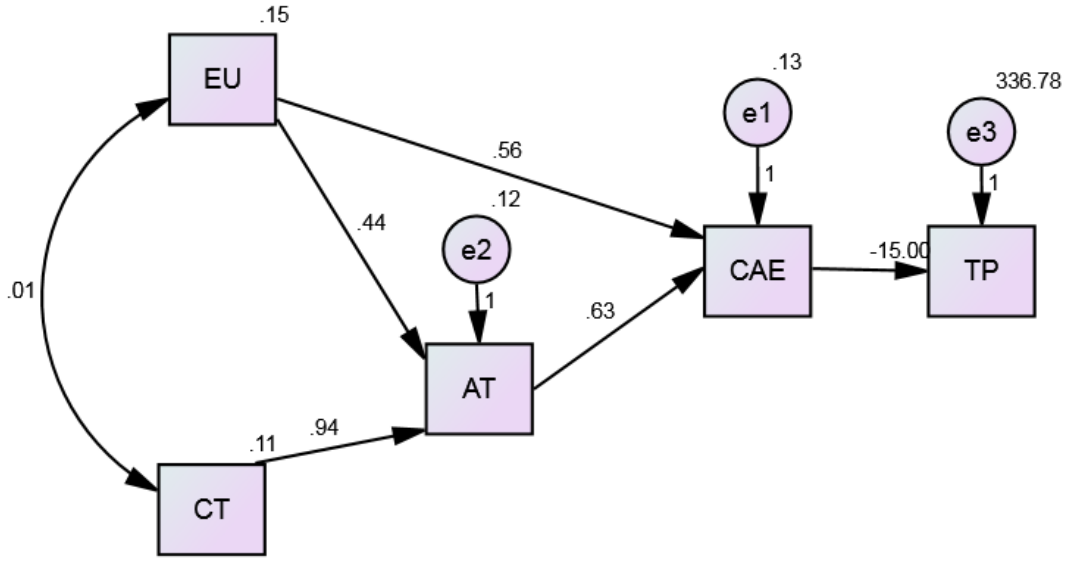


Table 4.9
Regression Weights, Variance, Covariance, and Correlation Levels for Model in Figure 4.7

Regression Weights	*Unstandardized*	*Standardized*	*p*
Emotional Utilization → Creating Affirmative Environment	.56	.38	.004
Emotional Utilization → Intra-Team Trust-Affective	.44	.33	.010
Intra-Team Trust - Cognitive → Intra-Team Trust- Affective	.94	.61	***
Intra-team trust- Affective → Creating Affirmative Environment	.63	.55	***
Creating Affirmative Environment → Team Performance	-15.0	-.43	.013

Variance	*Estimate*	*Standard Error*	*p*
Emotional Utilization	.15	.04	***
Intra-Team Trust- Cognitive	.11	.03	***
e1	.13	.03	***
e2	.12	.03	***
e3	336.79	90.0	***
Covariances	*Estimate*	*Standard Error*	*p*
Emotional Utilization with Intra-Team Trust - Cognitive	.02	.02	.533

Correlations	*Estimate*
Emotional Utilization with Intra-Team Trust - Cognitive	.12

Note: $\chi^2(4) = 1.03$, $p = .91$; CFI = 1.0; RMSEA = .000; SRMR = .03
*** indicates $p < .001$.

Data Analysis Summary

This chapter presented a detailed examination of the data analysis techniques used to address the research questions and hypotheses that are central to this study. Table 4.10 highlights the results of the data analysis. A review of the study sample and its characteristics was provided. Research questions one and two were evaluated using correlational statistics and multi-variate, simultaneous, and sequential regression. Team emotional intelligence-synergy factor-Creating Affirmative Environment, was found to be a predictor of team performance with a unit increase in CAE impacting total performance by an improvement in stacked ranking by 15-17.7 positions depending upon the data analysis method used. Research questions three and four were assessed with the aid of multivariate, simultaneous and sequential regressions and structural equation modeling. Team emotional intelligence-individual resource factor-Emotional Utilization and affective trust were found to be predictors of the TEI-S factor-CAE, with affective trust partially mediating the relationship between TEI-IR factor-EU and TEI-S factor-CAE. Affective trust was discovered to mediate substantially the relationship between cognitive trust and TEI-S factor-CAE. Lastly, research questions three and four were evaluated using structural equation modeling techniques. Now that a detailed description of the data analysis process has been reviewed, the final chapter will present discussion regarding the study's findings and results.

Table 4.10
Summary of Research Questions, Hypotheses, and Results

#	Research Question/Hypothesis	Result
1	Is team emotional intelligence-synergy (TEI-S) related to team performance (TP)?	**Supported** - Creating Affirmative Environment (CAE) significantly and meaningfully predicts TP.
2	Are particular factor(s) of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding team performance (TP) outcomes?	**Yes**, CAE is the only TEI-S factor that is significant in understanding TP.
3	Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrated predictive value in understanding team performance (TP)?	**Yes**, Emotional Utilization (EU) has a significant and predictive relationship to CAE.
4	Does intra-team trust (ITT) mediate the relationship between TEI-individual resource (TEI-IR) and TEI-synergy (TEI-S)?	The dimensions of ITT, cognitive and affective trust demonstrate a complex relationship with TEI-IR and TEI-S. A mediation relationship was found between TEI-IR factor-EU, TEI-S factor-CAE, and affective trust.
H_{4a}	Intra-team trust (ITT) mediates the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S).	**Supported**- affective trust partially mediated the relationship between TEI-IR factor, EU and TEI-S factor, CAE.
H_{4b}	Intra-team (ITT) trust will be positively related to team emotional intelligence TEI-synergy (TEI-S).	**Supported**- Both cognitive and affective trust were found when analyzed separately to have a positive relationship to CAE. When included in the same analysis, affective trust strongly mediated the relationship between cognitive and affective trust.
H_{4b1}	Cognitive trust (CT) will be positively related to team emotional intelligence-synergy (TEI-S).	**Supported**- relationship is mediated in the presence of affective trust.
H_{4b2}	Affective trust (AT) will be positively related to team emotional intelligence-synergy (TEI-S).	**Supported**- affective trust demonstrated a significant and meaningful positive and predictive relationship with CAE.
H_{4b3}	Affective trust (AT) will be more strongly associated with team emotional intelligence-synergy (TEI-S) than cognitive trust (CT).	**Supported**- the mediation effect that was demonstrated in the analysis supports a stronger direct relationship of affective trust with CAE than cognitive trust, which displayed an indirect relationship with CAE.

CHAPTER 5: CONCLUSIONS, INTERPRETATION, AND RECOMMENDATIONS

This dissertation was undertaken to explore the relationship between team emotional intelligence, intra-team trust, and team performance. Within the world of commerce, the topic is relevant as business leaders seek to deepen their understanding of how teams function in order to drive team performance in an effort to improve institutional outcomes (Katzenbach & Smith, 1993). The relevance is also made clear by reviewing the number of articles included in the *Harvard Business Review* related to understanding and improving team performance. Within academia, the need for this dissertation is clear as no single study examines the relationship of team emotional intelligence-individual resource, team emotional intelligence-synergy, and team performance. Furthermore, much of the research focused on team emotional intelligence is conducted with student samples versus working adults. And finally, much of the research investigating team emotional intelligence-synergy is not fully disclosed in the public domain, which limits the ability of scholars to build a robust body of knowledge in the subject area.

Specifically, the dissertation was designed utilizing both multivariate regression and structural equation modeling to understand how, and to what degree, team emotional intelligence-individual resource, intra-team trust, and team emotional intelligence-synergy interact to influence team performance in an active and high-stakes work environment. The research questions and hypotheses evaluated in the study follow:

(1) Is team emotional intelligence-synergy (TEI-S) related to team performance (TP)?

Yes, TEI-S is significantly and meaningfully related to team performance (TP).

(2) Are particular factors of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding team performance (TP) outcomes?

Yes, TEI-S factor-Creating Affirmative Environment (CAE) was the only factor found to be significant in understanding team performance outcomes.

(3) Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrate predictive value in understanding team performance?

Yes, TEI-IR factor-Emotional Utilization (EU), was found to be significant and meaningful in understanding TEI-S factor-Creating Affirmative Environment (CAE).

(4) Does intra-team trust (ITT) mediate the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S)?

Yes, the affective trust (AT) component of ITT mediates the relationship between TEI-IR and TEI-S.

- H_{4a}: Intra-team trust (ITT) mediates the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S). **Supported.**
- H_{4b}: Intra-team trust (ITT) will be positively related to team emotional intelligence-synergy (TEI-S).
    - H_{4b1}: Cognitive trust (CT) will be positively related to team emotional intelligence-synergy (TEI-S). **Supported.**
    - H_{4b2}: Affective trust (AT) will be positively related to team emotional intelligence-synergy (TEI-S). **Supported.**

- H_{4b3}: Affective trust (AT) will be more strongly associated with team emotional intelligence-synergy (TEI-S) than cognitive trust (CT). **Supported.**

Review and Discussion of the Main Findings of the Study

As noted earlier, four research questions and five hypotheses were evaluated in the study. In the section that follows, the findings of each research question and hypothesis will be reviewed and the implications of the findings discussed.

Research Question 1

Is team emotional intelligence-synergy (TEI-S) related to team performance (TP)?

Findings. The research question was primarily evaluated using multivariate regression. The analysis demonstrated a single TEI-S factor-Creating Affirmative Environment (CAE), was related to team performance. The final regression analysis, see Table 4.5, which was significant at the $p = .02$ level, indicated that for each unit of improvement in CAE, performance improved by 18 positions, $p = .01$ for the CAE regression coefficient. The model demonstrated not only statistical significance, but also met the hurdle of practical significance as well given that an 18 position improvement in performance would likely have significant financial and career implications for team members. The model demonstrated team emotional intelligence-synergy factor-CAE explained about 32% of the variance associated with team performance.

Given that published studies by Wolff et al. (2006) did not investigate the relationship between CAE and performance, this analysis contributes new knowledge to the understanding of the antecedents of team performance. The four remaining TEI-S factors evaluated, (a) Creating Resources, (b) Interpersonal Understanding, (c) Problem Solving, and (d) Team Self Evaluation, demonstrated no significant predictive relationship to team performance. Wolff et al. (2006)

results demonstrated a positive relationship via correlational and structural equation modeling analyses to a team effectiveness construct; however, lack of full disclosure prevents a more meaningful comparison to this study's results. The results of the Wolff et al. (2006) study and this dissertation may differ due to the variations in the samples. This research was conducted in a single industry with a narrowly defined sample. Therefore, results of this study are not able to be broadly generalized.

Discussion and implications. As conceptualized by Druskat and Wolff (2001a, 2001b, 2008), TEI-S involves awareness and regulation of emotions on three distinct levels, (a) individual, (b) group, and (c) cross-boundary, and the development of group emotionally competent norms to facilitate group functioning. Creating Affirmative Environment is categorized as a regulation norm that at the group level expands the emotional capacity of the team by providing an accepted team perspective and outlook whereby, not only positive, but also negative stimuli are viewed through a lens of positivity. The group norm is to emphasize the ability of the team to overcome hurdles and achieve desired outcomes (Druskat & Wolff, 2001a). The construct includes a sense of past, present and future, with a heavy emphasis as operationalized in the GEIQ on present and future state. Creating Affirmative Environment was the sole TEI-S factor found to be predictive of team performance.

Given that the sample was focused within a heavily regulated and rapidly changing industry, it is not surprising that the ability of team to create a mood and mode of operation that emphasizes overcoming challenges would be significantly related to team performance. The result demonstrates the importance for leaders of enabling a "can do" culture. Importantly, for hiring managers, the result enforces the importance of hiring decisions and carefully considering the impact that a new addition may have on a team's ability to sustain or create an affirmative

environment. For front line managers, the results indicate the critical nature of understanding each team's capacity for creating an affirmative environment and coaching, where possible, to expand that capability and, perhaps, more importantly, modeling the ability to utilize a negative stimulus as a positive behavioral influence.

Research Question 2

Are particular factors of team emotional intelligence-synergy (TEI-S) more meaningful than other factors in understanding team performance outcomes?

Findings. It was anticipated upon the development of the research question that it would be necessary to evaluate the standardized coefficient of the regression model to formulate an answer to the question. However, the analysis to research question 1 demonstrated a single team emotional intelligence-synergy (TEI-S) factor-Creating Affirmative Environment was meaningful in understanding and predicting team performance (TP) outcomes.

This outcome was surprising in light of the findings of Wolff et al. (2006). In the Wolff studies, Interpersonal Understanding, Problem Solving, and Team Self-Evaluation each demonstrated a positive relationship with team effectiveness. As is noted in response to research question one, Creating Affirmative Environment was not evaluated in the Wolff studies.

Discussion and implications. The results emphasize again that the team emotional intelligence-synergy factor of Creating Affirmative Environment is critical to understanding team performance within this particular sample of teams, within a highly-specialized and regulated professional services environment. The team's ability to create and maintain a positive atmosphere and team ethos is instrumental in the performance of the team. This information is critical to each organizational level within the private wealth division.

Team members, if aware of the import of this singular TEI-S factor, can take steps to build deliberately the emotionally competent group norm within their teams. Specialist team members, who experience multiple team environments, may be able to share practices across teams that appear to create and sustain an affirmative environment. Mid-level managers need to investigate the unique behaviors and practices of teams demonstrating high capabilities in CAE in order to understand what this factor looks like in practice. These middle level sales managers should be thoughtful about modeling how to create an affirmative environment within their own behaviors and deliver via regular and consistent coaching to team members the tools and insights that will help teams accelerate the development of this critical TEI-S factor. Finally, leadership must be aware of the importance of this factor and consider intended and unintended consequences of actions that may either accelerate or impede the ability of teams to create and sustain an affirmative environment.

Importantly, additional interventions are recommended in response to research questions 3 and 4 based upon the study's full conceptual model.

Research question 3

Is team emotional intelligence-individual resource (TEI-IR) related to the team emotional intelligence-synergy (TEI-S) factor(s) that demonstrate predictive value in understanding team performance?

Findings. This research question was examined using regression analysis. The results demonstrated team emotional intelligence-individual resource factor-Emotional Utilization was the single TEI-IR factor that was related to and predictive of team emotional intelligence-synergy factor-Creating Affirmative Environment. The final regression analysis, see Table 4.6, which was significant at the $p < .001$ level, indicated that for each unit of improvement in TEI-IR

factor-EU, TEI-S factor-Creating Affirmative Environment improved by 1.12 units, ($p < .001$). The model demonstrated both statistical and practical significance given the level of impact EU displayed in relation to CAE. Control variable years in private wealth industry also displayed a significant relationship to CAE at the $p = .002$ level; however, the practical significance of the relationship was limited with a regression coefficient of .05. The model demonstrated team emotional intelligence-individual resource factor-Emotional Utilization and years in the private wealth industry explained about 59% of the variance associated with team emotional intelligence-synergy factor-Creating Affirmative Environment.

Discussion and implications. Salovey and Mayer (1990) included Emotional Utilization as an element of their original, three branch emotional intelligence model. In the J. D. Mayer and Salovey (1997) revised model, the elements of Emotional Utilization are captured primarily in the second branch, Emotional Facilitation of Thinking. Specifically, emotional utilization involves the ability of an individual to tap into emotions for (a) problem solving through mood swings that enable an individual to consider the future and recognize a wider set of solutions, (b) reorganization of memory for connecting divergent cognitive material leading to creative thinking, and (c) the use of emotion to redirect an individual's focus and resources to a critical area.

Each element explained in the prior paragraph was included in the Emotional Utilization factor as determined through the exploratory and confirmatory factor analysis processes. The three elements combined for approximately 60% of the indexed factor. Two additional elements were included in the factor. The affinity of the individual for sharing emotions with others and the ability to experience an event through another's retelling of it. These two elements accounted for 40% of the factor. Given the inclusion of these elements into a single factor, there

may be a sense that emotional utilization is not limited to one's own emotional resources, but that it also contains an element of being able to harness and utilize the emotional energy of others.

The implications of the findings from an academic perspective are significant. As far as the researcher knows, this is the first time in a corporate work environment that a team emotional intelligence-individual resource factor has been demonstrated to have a significant predictive relationship of a team emotional intelligence-synergy factor. Furthermore, it is important to understand that three team emotional intelligence-individual resource factors were not found to be relevant in understanding team emotional intelligence-synergy factor-Creating Affirmative Environment. Interestingly, it might have been a convenient assumption to expect TEI-IR factor- Outlook, which centers on optimism and expected good outcomes, to have the strongest connection to CAE given its focus on overcoming challenges; however, that was not the case. Emotional Utilization and its focus on the ability to facilitate thinking is the most important TEI-IR factor in relation to Creating Affirmative Environment.

From a practical perspective, the findings are also important. Leaders need to be deliberate when hiring to uncover a candidate's level of emotional utilization ability. It is recommended that managers investigate adopting screening candidates with emotional intelligence instruments based upon the Mayer & Salovey model that have been appropriately developed and tested for reliability and validity. The Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) is an example of such an instrument. In this particular professional services environment, a primary focus should be on the part of any scale that measures emotional utilization. Furthermore, it is recommended that hiring managers consider including in the interview process candidate questions/scenarios that help illuminate the emotional utilization

capacity of the individual. Questions such as, (a) "Share with me how you tend to recognize new possibilities, solutions, or ideas? What is that experience like for you? What factors influence your ability to problem solve from a different perspective?", (b) "How do you feel when a co-worker or client shares details of an important life event?", (c) "Talk to me about a major life event of yours and how it may have impacted you?", may be important to beginning to form an understanding of a candidate's emotional utilization. An interviewer would need to be skilled at asking appropriate follow-up questions to direct the conversation towards the emotional utilization element under consideration.

From a leadership perspective, it is critical that leaders understand a meaningful relationship between these factors is present, the connection is a strong one, and improving Emotional Utilization impacts Creating Affirmative Environment, which influences team performance. Caruso and Salovey (2004) dedicate an entire chapter of their book, *The Emotionally Intelligent Manager: How to Develop and Use the Four Key Emotional Skills of Leadership* to explaining in layman's terms emotional utilization and describing basic exercises to improve its functioning. This chapter is a good starting place for a leader or team member, who is interested in increasing ability for this particular emotional intelligence-individual resource factor.

Research Question 4

Does intra-team trust (ITT) mediate the relationship between team emotional intelligence-individual resource (TEI-IR) and team emotional intelligence-synergy (TEI-S)?

Findings. Research question 4 and its accompanying hypotheses were evaluated through a series of ten multivariate regression analyses utilizing the methodology established by Baron and Kenny (1986), see Table 4.7, as well as SEM analysis. Both the overall ITT construct and

the component cognitive trust were found to not mediate the relationship between TEI-IR factor-Emotional Utilization and TEI-S factor-Creating Affirmative Environment. This was demonstrated through a set of regression analyses of predictor variable, TEI-IR factor-Emotional Utilization, and dependent variables, ITT and CT, that were not significant. In order to demonstrate mediation, these regression analyses would have needed to reflect a significant relationship. On the other hand, affective trust (AT) was shown to mediate the relationship between TEI-IR factor-Emotional Utilization and TEI-S factor-Creating Affirmative Environment. This was demonstrated through (a) a significant regression of affective trust as predictor variable and Emotional Utilization as dependent variable, ($p = .028$); (b) the findings from research question #2, which indicated a significant relationship between TEI-IR factor-EU and TEI-S factor-CAE; and (c) a significant relationship between affective trust, as a predictor variable, and TEI-S factor-CAE, the dependent variable, as demonstrated through a significant regression analysis, ($p < .001$). The evidence indicated a significant partial mediation of TEI-IR factor-Emotional Utilization and TEI-S factor-Creating Affirmative Environment, by affective trust. The mediation was also demonstrated through SEM analysis; the indirect effect was estimated at .28.

Another mediating relationship was demonstrated while the 4b hypotheses were being evaluated. Cognitive trust was shown to have a significant positive relationship to TEI-S factor-Creating Affirmative Environment, ($p = .01$). However, when affective trust was included in the regression analysis, affective trust became a significant predictor variable and cognitive trust lost its significance. The mediation impacted appeared strong based upon the change in the regression coefficient of CT, from .81 without the presence of AT to .01 with the presence of AT. SEM analysis also indicated a mediation relationship, with an indirect effect of .59.

The final set of regression analyses inclusive of control variables, TEI-IR factor-Emotional Utilization, affective trust, and cognitive trust resulted in a significant and meaningful model. The final regression analysis, see Table 4.7- model 11, was highly significant at the $p <$ .001 level. The model indicated that for each unit of improvement in TEI-IR factor-Emotional Utilization, TEI-S factor-Creating Affirmative Environment improved by .84 units, ($p < .001$) for the regression coefficient for EU. For each unit of improvement in affective trust, TEI-S factor-CAE improved by .43 units. Years in industry also displayed a significant regression coefficient; however, from a practical perspective the impact was not meaningful. The model demonstrated both statistical significance and practical significance given the level of impact EU and AT displayed in relation to CAE. The model demonstrated team emotional intelligence-individual resource factor-Emotional Utilization; affective trust; and years in the private wealth industry explained about 77% of the variance associated with team emotional intelligence-synergy factor-Creating Affirmative Environment.

Discussion and implications. The findings above are significant in that they are believed to be the first findings to demonstrate the linkage between TEI-IR, intra-team trust, and TEI-S in a single model. While McAllister (1995) did hypothesize about the relationship between affective trust and consequent behaviors, the behaviors that McAllister highlights through the survey instrument he used are related to the willingness of an individual to engage in work behaviors that directly assist an individual and assistance given when not required. The behaviors are narrowly defined as action-focused on providing assistance. This concept is considerably different from the team emotional intelligence-synergy factor of Creating Affirmative Environment. Team emotional intelligence-synergy factor-Creating Affirmative Environment incorporates a team spirit or ethos supported by behavior that recognizes the team

has a history of overcoming challenges to achieve goals and expects to do so in the present and into the future. A team that creates an affirmative environment possesses a positive emotional climate and optimism about the future state of the team. Chang et al. (2012) did investigate the role of intra-team trust, but did so in relation to an overall TEI construct, inclusive of team and team leader EI, and team performance.

The implications of the findings are significant from both academic and practical perspectives. From an academic perspective, this model opens up new understanding of how team emotional intelligence and intra-team trust relate to one another within the life of small group team. From a practical perspective, the findings are important because the model provides a tool whereby managers and leaders in Private Wealth Management may gain deeper understanding into the inner workings of professional teams and be able to better assess where teams are off-course and why. The knowledge gained in answering this question should encourage managers to think about and design team interactions that lead to the creation of affective trust. The data confirm that trusting in a teammate's technical competence is important, but that, in order to elevate the level of TEI-S factor-CAE, trusting a teammate on another level, the affective level, is essential.

Self-disclosure is an important tool used in group counseling to create a sense of identity within a group and to facilitate the emergence of trust through individuals placing themselves in a position of vulnerability with another (Jacobs, Masson, Harvill, & Shimmel, 2012). Offermann and Rosh (2012) brought self-disclosure into the business world by discussing the importance of self-disclosure in relationship to executive leaders and their organizations. However, leaders at all levels should also be mindful of the importance of self-disclosure in building trust, especially affective trust, and create experiences that facilitate appropriate self-disclosure among members

of self-directed work teams. Experiential encounters do not have to be overly time consuming and should be thoughtfully planned with the specific team in mind. Ideas include, (a) communication styles exercise, (b) personality testing and discussion, (c) a Johari Window exercise, (d) a probing question at the beginning of meetings that everyone is required to answer.

In addition to self-disclosure exercises, team leaders may also want to consider team collaborative problem solving experiences. These experiences should be designed to place team members on equal footing through unique experiences without any one member having a clear advantage. Leaders should be careful to avoid activities based solely upon physical ability that exhibit explicit bias based upon physical ability, age, or gender. A simple google search for team collaboration or trust exercises will uncover multiple suggestions. Well-known activities include (a) rope/knot extraction exercises (b) survival in desert or arctic scenarios, (c) a lock-in experience, (d) scavenger hunts, or (e) volunteer experiences.

Finally, team leaders and members should familiarize themselves with Tuckman's model of small group development (Bonebright, 2010). The model provides valuable insight into the stages of a small team's development and establishes a vocabulary around team functioning that may aid leaders and members in articulating team dynamics and identifying what types of behaviors are to be expected given the stage of development and what types of behaviors and experiences to encourage for team growth.

Evaluating the Conceptual Model

Findings. The conceptual model revised for findings from the research questions was evaluated using SEM analysis in AMOS 23.0. The model is shown in Figure 4.7 and the goodness of fit statistics indicated that the model was appropriately fitted. All of the relationships that are discussed were found to have significant regression weights. The model

indicates that team emotional intelligence-individual resource factor-Emotional Utilization has a relationship to team emotional intelligence-synergy factor-Creating Affirmative Environment that is partially mediated by affective trust. Cognitive trust is shown to have a relationship with team emotional intelligence-synergy factor-Creating Affirmative Environment that is almost fully mediated by affective trust. Team emotional intelligence-synergy factor-Creating Affirmative Environment is shown to have a direct relationship to team performance. A one unit change improvement in CAE impacts stacked ranking by fifteen positions.

Discussion and implications. The model, as described, has notable significance because it is the first model to include team emotional intelligence-individual resource and team emotional intelligence-synergy factors in a single model with intra-team trust and with a linkage to team performance as measured by an objective metric. The model depicts a novel way of thinking about the team emotional intelligence relationship to team performance.

Within the Private Wealth work environment, the findings are significant in that they provide clarity to what factors other than technical competence may impact team performance. Furthermore, the model demonstrates how the factors may fit together to drive performance. An understanding of how the factors connect is critical in thinking about interventions to improve performance. The model offers at least four areas of focus, (a) Emotional Utilization, (b) cognitive trust, (c) affective trust, and (c) Creating Affirmative Environment that leaders and managers may want to consider when examining ways to improve team performance.

Specifically, the use of individual emotional intelligence assessments with a focus on Emotional Utilization, such as the MSCEIT, and interviewing techniques designed to uncover Emotional Utilization should be evaluated for inclusion into hiring protocol. Exercises to increase the ability of team member's Emotional Utilization should also be implemented on a

consistent basis. Increasing the level of Emotional Utilization is important, because evidence is sufficient to indicate a relationship among EU, CAE, and performance. Managers should also be aware of the impact of cognitive and affective trust within team functioning and should act to address situations where cognitive trust is low and seek to create an environment where affective trust can flourish.

Lastly, managers and leaders should consider other factors that are not considered in this study that may impact team emotional intelligence-synergy factor-Creating Affirmative Environment and develop interventions to raise the level of CAE. Other factors could include factors such as persona and communication style of immediate manager/supervisor; a manager that lacks an optimist mindset and has limited communication and relationship-building skills will likely be stymied in the ability to facilitate creating an affirmative environment. The work culture should be evaluated to assess its alignment with CAE. Senior leaders should model reflective skills and a willingness to embrace and openly communicate personal and team growth objectives and behaviors. Leadership teams should consider providing lower level work teams insight into their dynamics, processes, and mindset. Corporate and leadership messaging and communication is another element that is external to the conceptual model that leaders have the ability to directly influence. In a rapidly changing environment due to a convergence of structural and cyclical forces, employees may feel disconnected and suspicious of leadership. Communication that, at its heart, shows awareness of and empathy for the multi-dimensional experience of the team member is likely to aid in creating an affirmative environment. Leaders should also be proactive in contemplating the physical work space, its design, and its potential impact on the emotional environment of the team.

Lastly, this study provides a common language that leaders and team members may use when talking about team emotional intelligence and team performance. The more precise leaders are in naming a phenomena the more likely that everyone in the dialogue will understand the thing or process and the more likely a successful intervention will be developed.

Limitations

This study had multiple limitations that must be acknowledged. The first is that the study was focused on a narrow population of professionals within a U.S. Private Wealth Services environment. This limitation severely limits the ability to generalize the results beyond the specific population investigated. Within the population that was studied, team members categorized as specialists were requested to respond for up to five teams. The request of specialists to respond for multiple teams, if they desired, may have impacted the response rate and the ability to create team units. Additionally, participation by all respondents was voluntary and that may have lowered participation rates. The number of respondents may have impacted the ability of additional TEI-IR factors to emerge from the data set. Additionally, the number of teams able to be created from the data set may have decreased the ability of both regression and SEM analyses to uncover additional relationships. The small sample size and cross sectional data are notable limitations and weaknesses inherent to the study.

The use of a self-report measure for assessing team emotional intelligence-individual resource is another limitation of the research. Additionally, another limitation was that only five of the twelve factors of the team emotional intelligence-synergy were included in the study. Common source error was also another potential limitation that was addressed through the use of statistical techniques.

The study is also limited in that it was focused on understanding the antecedents of performance that are related to team emotional intelligence and intra-team trust. Based upon the results of the full conceptual model with a focus on the level of variance in team performance explained by the model, it is evident that additional factors strongly impact team performance. These factors may include variables such as the technical competence of team members, the depth and breadth of personal and professional network of team members, the level of wealth creation in the geographic coverage area, intensity of competitive environment, level of market share, and level of marketing spend.

Recommendations for Future Research

Future research will be critical to deepening the knowledge of how TEI-IR, intra-team trust, and TEI-S relate to impact performance. The conceptual model should be tested in additional work environments, beyond Private Wealth Management, that utilize long-term team assignments. The model should also be examined in work environments where short-term team assignments are common to determine if different TEI-IR, intra-team trust, and TEI-S factors are relevant in understanding performance.

The model should be evaluated using all twelve of the TEI-S factors. Another avenue for research extension is to utilize a measure of TEI-IR, such as the MSCEIT, that is not a self-report measure within the testing of the model.

A longitudinal study in an environment with low team member turnover could also prove beneficial to improving understanding of the concepts under investigation from a longer-term perspective.

Research should also be conducted in environments where the number of teams in the sample size is likely to be greater than fifty and preferably one hundred, so that the analysis does not exhibit issues common with small size samples.

Conclusion

Teams are the basis for organizational life, especially in professional services environments that require the integration of highly specialized technical areas of expertise. "History has brought us to a moment where teams are recognized as a critical component of every enterprise-the predominant unit for decision making and getting things done" (Senge, Kleiner, Roberts, Ross, & Smith, 1994, p. LOC 6774). The most critical problems of this era will likely not be solved by an individual in isolation, instead solutions to the most pressing issues of the time in business, academia, government, medicine, and other spheres of life will be created within self-directed work teams of experts from different areas of specialties. In such an environment, it is critical that leaders and team members understand the drivers of performance beyond technical competence. For years, it has been commonplace to hear in the workplace and to read in the common press sweeping general and broad-based assertions regarding the relationship between team emotional intelligence and team performance. This study defines for a particular work environment what specific team emotional intelligence factors are critical to performance and how the factors relate to each other and to performance. The power for improving team performance will be found in moving from the general to the specific. Understanding how team emotional intelligence-individual resource, intra-team trust, and team emotional intelligence-synergy interact to impact team performance outcomes is critical for advancing the design, leadership, and management of teams — the most essential building block of work structure.

References

Austin, E. J., Saklofske, D. H., Huang, S. H. S., & McKenney, D. (2004). Measurement of trait emotional intelligence: Testing and cross-validating a modified version of Schutte et al.'s (1998) measure. *Personality and Individual Differences, 36*(2004), 555-562. doi:10.1016/S0191-8869(03)00114-4

Bar-On, R. (2006). The Bar-On model of emotional-social intelligence (ESI). *Psicothema, 18*(suppl.), 13-25.

Barczak, G., Lassk, F., & Mulki, J. (2010). Antecedents of team creativity: An examination of team emotional intelligence, team trust and collaborative culture. *Creativity & Innovation Management, 19*(4), 332-345. doi:10.1111/j.1467-8691.2010.00574.x

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Blanchard, K., Randolph, A., & Grazier, P. (2007). *GO TEAM! Take your team to the next level*

Blunch, N. J. (2013). *Introduction to structural equation modeling using IBM SPSS statistics and Amos* (K. Metzler Ed. 2nd ed.). Los Angeles: Sage.

Bonebright, D. A. (2010). 40 years of storming: a historical review of Tuckman's model of small group development. *Human Resource Development International, 13*(1), 111-120. doi:10.1080/13678861003589099

Canary, D. J., & Spitzberg, B. H. (1987). Appropriateness and effectiveness peceptions of conflict strategies. *Human Communications Research, 14*, 93-118.

Caruso, D., & Salovey, P. (2004). *The emotionally intelligent manager: How to develop and use the four key emotional skills of leadership*. San Francisco: Jossey-Bass.

Chang, J. W., Sy, T., & Choi, J. N. (2012). Team emotional intelligence and performance: Interactive dynamics between leaders and members. *Small Group Research, 43*(1), 75-104. doi:10.1177/1046496411415692

Cheung, G. W., & Lau, R. (2008). Testing mediation and suppression effects of latent variables. *Organizational Research Methods, 11*(2), 296-325. doi:10.1177/1094428107300343

Cohen, S. G., & Bailey, D. E. (1997). What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management, 23*(3), 239-290.

Consortium, E. I. (2014). References.

Druskat, V. U., & Wolff, S. B. (2001a). Building the emotional intelligence of groups. *Harvard Business Review, March*, 81-90.

Druskat, V. U., & Wolff, S. B. (2001b). Group emotional intelligence and its influence on group effectiveness. In C. Cherniss & D. Goleman (Eds.), *The emotionally intelligent workplace: How to select for, measure, and improve emotional intelligence in individuals, groups, and organizations*. San Francisco: Jossey-Bass.

Druskat, V. U., & Wolff, S. B. (2008). Group-level emotional intelligence. In N. M. Ashkanasy & C. L. Cooper (Eds.), *Research companion to emotion in organizations* (pp. 441-454). Cheltenham, UK: Edward Elgar.

Elfenbein, H. A. (2006). Team emotional intelligence: What it can mean and how it can affect performance

In V. U. Druskat, F. Sala, & G. Mount (Eds.), *Linking Emotional Intelligence and Performance at Work* (pp. 165-184). New Jersey: Lawrence Erlbaum Associates.

Fabrigar, L. R., & Wegener, D. T. (2012). *Exploratory Factor Analysis*. Oxford: Oxford University Press.

Goleman, D. (1995). *Emotional intelligence*. New York, NY: Bantam.

Goleman, D. (1998). *Working with emotional intelligence*. New York, NY: Bantam Dell.

Goleman, D., Boyatzis, R., & McKee, A. (2002). The emotional reality of teams. *Journal of Organizational Excellence, 21*, 55-65. doi:10.1002/npr.10020

Hamme, C. (2004). *Group emotional intelligence: The research and development of an assessment instrument*. dissertation. Applied and Professional Psychology. The State University of New Jersey.

Handbook of structural equation modeling. (2012). (R. H. Hoyle Ed.). New York: The Guildford Press.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis. *Structural Equation Modeling, 6*(1), 1-55.

Jacobs, E. E., Masson, R. L., Harvill, R. L., & Shimmel, C. J. (2012). *Group counseling strategies and skills* (7 ed.). Belmont, CA: Brooks/Cole.

Jonker, C. S., & Vosloo, C. (2008). The psychometric properites of the schutte emotional intelligence scale. *SA Journal of Industrial Psychology, 34*(2), 21-30.

Jordan, P. J., & Ashkanasy, N. M. (2006). Emotional intelligence, emotional self awareness, and team effectiveness. In V. U. Druskat, F. Sala, & G. Mount (Eds.), *Linking emotional intelligence and performance at work: Current research evidence with individuals and groups* (pp. 145-163). New Jersey: Lawrence Erlbaum Associates.

Jordan, P. J., & Lawrence, S. A. (2009). Emotional intelligence in teams: Development and intial validation of the short version of the workgroup emotional intelligence profile (WEIP-s). *Journal of Management & Organization, 15*(5), 452-469.

Jordan, P. J., & Troth, A. C. (2004). Managing emotion during team problem solving: Emotional intelligence and conflict resolution. *Human Performance, 17*(2), 195-218.

Kaiser, H. F. (1960). The application of electronic computers to factor analysis. *Educational and Psychological Measurement, 20*(1), 141-151. doi:10.1177/001316446002000116

Katzenbach, J. R., & Smith, D. K. (1993). *The wisdom of teams: Creating the high-performance organization*

Kotter, J. P. (2012). Accelerate! *Harvard Business Review, 90*(11), 43-58.

Lopez, S. P., Peon, J. M. M., & Ordas, C. J. V. (2004). Managing knowledge: The link of between culture and organizational learning. *Journal of Knowledge Management, 8*(6), 93-104. doi:10.1108/13673270410567657

MacCallum, R. C., Widaman, K. F., Preacher, K. J., & Hong, S. (2001). Sample size in factor analysis: The role of model error. *Multivariate Behavioral Research, 36*(4), 611-637.

MacCallum, R. C., Widaman, K. F., Zhang, S., & Hong, S. (1999). Sample size in factor analysis. *Psychological Methods, 4*(1), 84-99.

Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter (Eds.), *Emotional development and emotional intelligence* (pp. 3-31). New York: Basic Books.

Mayer, J. D., Salovey, P., & Caruso, D. (2000). Models of emotional intelligence. In R. J. Sternberg (Ed.), *The handbook of intelligence* (pp. 396-420). New York: Cambridge University Press.

Mayer, R. C., Davis, J. H., & Schoorman, F. (1995). An integrative model of organizational trust. *Academy of Management Review, 20*(3), 709-734.

McAllister, D. J. (1995). Affect- and cognition-based trust as foundation for interpersonal cooperation in organizations. *Academy of Management Journal, 38*(1), 24-59.

Offermann, L., & Rosh, L. (2012). Building trust through skillfull self-disclosure. *Harvard Business Review*.

Peterson, C. H. (2012). The individual regulation component of group emotional intelligence: Measure development and validation. *The Journal for Specialists in Group Work, 37* (3), 232-251. doi:10.1080/01933922.2012.686962

Petrides, K. V., & Furnham, A. (2000). On the dimensional structure of emotional intelligence. *Personality and Individual Differences, 29*(2000), 313-320.

Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral researach: A critical review of literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879-903.

Rego, A., Sousa, F., Pina e Cunha, M., Correia, A., & Saur-Amaral, I. (2007). Leader self-reported emotional intelligence and perceived employee creativity: An exploration study. *Creativity & Innovation Management, 16*(3), 250-264. doi:10.1111/j.1467-8691.2007.00435.x

Rozell, E., Pettijohn, C. E., & Parker, R. S. (2006). Emotional intelligence and dispositional affectivity as predictors of performance in salespeople. *Journal of Marketing Theory and Practice, 14*(2), 113-124.

Saklofske, D. H., Austin, E. J., & Minski, P. S. (2003). Factor structure and validity of a trait emotional intelligence measure. *Personality and Individual Differences, 34*(2003), 707-721.

Salovey, P., Brackett, M. A., & Mayer, J. D. (2007). *Emotional intelligence: Key readings on the mayer and salovey model*. Port Chester, NY: Dude Publishing.

Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality, 9*.

Saunders, J. A., Morrow-Howell, N., Spitznagel, E., Dore, P., Procor, E. K., & Pescarino, R. (2006). Imputing missing data: A comparison of methods for social work researchers. *Social Work Research, 30*(1), 19-31.

Schoorman, F. D., Mayer, R. C., & Davis, J. H. (2007). An integrative model of organizational trust: Past, present and future. *Academy of Management Review, 32*(2), 344-354.

Schutte, N. S., Malouff, J. M., & Bhullar, N. (2009). The assessing emotions scale. In C. Stough, D. H. Saklofske, & J. D. A. Parker (Eds.), *Assessing emotional intelligence: Theory, research and applications* (pp. 118-134 LOC 3253-3856): Springer.

Schutte, N. S., Malouff, J. M., Hall, L. E., Haggerty, D. J., Cooper, J. T., Golden, C. J., & Dornheim, L. (1998). Development and validation of a measure of emotional intelligence. *Personality and Individual Differences, 25*, 167-177.

Senge, P. M., Kleiner, A., Roberts, C., Ross, R. B., & Smith, B. J. (1994). *The Fifth discipline fieldbook: Strategies and tools for building a learning organization*

Thompson, E. R. (2007). Development and validation of an internationally reliable short-form of the posiitive and negtive affect schedule (PANAS). *Journal of Cross-Cultural Psychology, 38*(2), 227-242. doi:10.1177/0022022106297301

Troth, A. C., Jordan, P. J., Lawrence, S. A., & Tse, H. H. M. (2012). A multilevel model of emotional skills, communication performance, and task performance in teams. *Journal of Organizational Behavior, 33*, 700-722.

Vogt, W. P. (2007). *Quantitative research methods for professionals*. Boston: Pearson.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measure of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070. doi:10.1037/0022-3514.54.6.1063

Webber, S. S. (2008). Development of cognitive and affective trust in teams: A longitudinal study. *Small Group Research, 39*(6), 746-769. doi:10.1177/1046496408323569

Wolff, S. B., Druskat, V. U., Koman, E. S., & Messer, T. E. (2006). The link between group emotional competence and group effectiveness. In V. U. Druskat, F. Sala, & G. Mount (Eds.), *Linking emotional intelligence and performance at work* (pp. 223-242). New Jersey: Lawrence Erlbaum Associates.

Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology, 9*(2), 79-94.

Appendix A Internal Review Board Materials

Appendix B Additional Research on AES

While Schutte et al. (1998) determined to make the 33-item one dimensional, other researchers, after conducting their own factor analyses, have treated the scale as containing three factors (Austin, Saklofske, Huang, & McKenney, 2004; Rozell, Pettijohn, & Parker, 2006) or four factors (Petrides & Furnham, 2000; Saklofske et al., 2003) based upon the factor results.

Petrides and Furnham (2000) offered an insightful critique of the scale with specific concerns regarding the analytical techniques, i.e., orthogonal rotation instead of oblique and the lack of confirmatory factor analysis, as well as objections to the limited use of reverse-coded items. In addition to offering a list of concerns regarding the instrument, the researchers also evaluated the scale utilizing analytical methods that they believe to be more appropriate for the data and the scale. The study consisted of 260 college students who completed the survey. A confirmatory factor analysis was conducted; the confirmatory factor analysis did not support a unidimensional construct. Next, the researchers conducted an exploratory factor analysis and determined that a four-factor model, consisting of optimism/mood regulation, appraisal of emotion, social skills, and utilization of emotions, was the most appropriate. Petrides and Furnham (2000) expressed that future researchers should re-conduct factor analysis due to the potential of instability in factors.

Saklofske et al. (2003) evaluated the AES scale further in a study including 354 undergraduate students, of which 66% were female. The students completed the AES and a number of additional scales and instruments. Ultimately, a four-factor model coinciding with the work of Petrides and Furnham (2000) emerged as the favored solution. Cronbach's alpha measures were found to be .89 for the overall instrument and .80 for Optimism/Mood Regulation, .79 for Appraisal of Emotions, .57 for Utilization of Emotions, and .75 for Social

Skills. The reading on Utilization of Emotions improved notably to .68 with the exclusion of one question.

Additional analysis was conducted to evaluate the AES in relation to multiple measures including measures of personality, alexithymia, life satisfaction, happiness, loneliness, depression, and cognitive intelligence. Correlational and regression analyses were conducted to evaluate the relationships. Overall emotional intelligence was found to be uncorrelated with overall cognitive and verbal ability. Other relationships between the AES scale and the other instruments were tested and found to be generally as expected. The authors indicated that the study supported the construct validity of trait-based emotional intelligence.

In a further exploration of observations made by Petrides and Furnham (2000) and Saklofske et al. (2003), Austin et al. (2004) created a modified version of the AES to address concerns regarding minimal reverse coding, improve the reliability of Utilization of Emotions, and to test the factor structure of the instrument. The study included participation by 500 undergraduate students of which 66% were female. The original AES instrument included three reverse coded questions whereas the modified questionnaire included nine. The authors also included eight new questions for a total of 41 questions. Internal reliability measures for the original AES scale and the modified scale were .84 and .85. The researchers conducted factor analysis on both instruments and proposed a three-factor solution. For the modified AES, the factor solution was described as being similar to that found by Petrides and Furnham (2000). However, the three factors for the original AES instrument were described as different from the prior three factor solutions and were labeled, Regulating/Using Emotions, Optimism/Positivity, and Utilization of Emotions. Internal reliability data for the Utilization of Emotions demonstrated improvement over the original instrument. Austin et al. (2004) concluded that the

modified version of the AES does not provide “strong advantages” (p. 561) over the original instrument and that the varying factor structure, given the limited number of modifications, is not easily explained.

Appendix C TEI-IR and Performance Regression Summary

In addition to the analysis that was presented in Chapter 4, the researcher conducted regression analyses on team emotional intelligence-individual resource factors, both individually and together, in relationship to team performance. The results demonstrated no TEI-IR factors displayed a significant or meaningful relationship to team performance.

	Model 1	Model 2	Model 3	Model 4	Model 5
	B	*B*	*B*	*B*	*B*
Variables					
Outlook	X				X
Emotional Utilization		X			X
Non-Verbal Awareness			X		X
Emotional Awareness -Self				X	X
R^2	.03	.12	.00	.01	.19
F	.74	3.75	.05	.32	1.40
Sig.	.399	.063	.832	.579	.263
df	1,27	1,27	1,27	1,27	4,24
n=29					

*$p < .05$. **$p < .01$. ***$p < .001$.

Appendix D Preliminary Regression Results

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.535[a]**	**.286**	**.131**	**19.231**

a. Predictors: (Constant), Problem Solving, Team Self-Evaluation, Interpersonal Understanding, Creating Affirmative Environment, Creating Resources

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	**42.423**	**49.852**		**.851**	**.404**		
	Interpersonal Understanding	**29.354**	**19.448**	**.548**	**1.509**	**.145**	**.236**	**4.246**
	Team Self-Evaluation	**12.138**	**16.573**	**.363**	**.732**	**.471**	**.126**	**7.935**
	Creating Affirmative Environment	**-34.266**	**14.364**	**-.971**	**-2.386**	**.026**	**.187**	**5.337**
	Creating Resources	**-13.977**	**14.530**	**-.398**	**-.962**	**.346**	**.182**	**5.506**
	Problem Solving	**3.932**	**14.613**	**.087**	**.269**	**.790**	**.294**	**3.403**

a. Dependent Variable: 2014 Leaderboard

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Interpersonal Understanding	Team Self-Evaluation	Creating Affirmative Environment	Creating Resources	Problem Solving
1	1	**5.973**	**1.000**	**.00**	**.00**	**.00**	**.00**	**.00**	**.00**
	2	**.016**	**19.311**	**.17**	**.00**	**.05**	**.01**	**.04**	**.00**
	3	**.005**	**33.077**	**.03**	**.00**	**.00**	**.31**	**.33**	**.00**
	4	**.003**	**43.603**	**.21**	**.01**	**.21**	**.01**	**.01**	**.62**
	5	**.002**	**61.875**	**.04**	**.10**	**.72**	**.32**	**.50**	**.37**
	6	**.001**	**68.481**	**.55**	**.89**	**.01**	**.36**	**.13**	**.00**

a. Dependent Variable: 2014 Leaderboard

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.747**[a]	**.558**	**.313**	**17.101**

a. Predictors: (Constant), Years in Industry, Creating Resources, Client Satisfaction, Positivity Affect, Level of Intra-team Communication, Gender Composition of Team, Problem Solving, Creating Affirmative Environment, Interpersonal Understanding, Team Self-Evaluation

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-42.279	98.555		-.429	.673		
	Interpersonal Understanding	22.856	22.115	.427	1.034	.315	.144	6.943
	Team Self-Evaluation	16.426	15.228	.492	1.079	.295	.118	8.472
	Creating Affirmative Environment	-41.045	14.912	-1.163	-2.752	.013	.137	7.274
	Creating Resources	-7.316	14.763	-.208	-.496	.626	.139	7.187
	Problem Solving	14.937	13.694	.332	1.091	.290	.265	3.779
	Client Satisfaction	.313	.154	.392	2.035	.057	.662	1.512
	Level of Intra-team Communication	-10.094	7.532	-.248	-1.340	.197	.719	1.390
	Gender Composition of Team	31.228	18.368	.366	1.700	.106	.530	1.886
	Positivity Affect	-8.848	16.075	-.121	-.550	.589	.510	1.963
	Years in Industry	2.229	.816	.561	2.733	.014	.583	1.716

a. Dependent Variable: 2014 Leaderboard

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Interpersonal Understanding	Team Self-Evaluation	Creating Affirmative Environment	Creating Resources	Problem Solving	Client Satisfaction	Level of Intra-team Communication	Gender Composition of Team	Positivity Affect	Years in Industry
1	1	10.715	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.112	9.786	.00	.00	.00	.00	.00	.00	.42	.00	.01	.00	.02
	3	.074	12.048	.00	.00	.00	.00	.00	.00	.14	.08	.06	.00	.21
	4	.043	15.773	.00	.00	.01	.00	.01	.00	.05	.08	.14	.00	.12
	5	.038	16.786	.00	.00	.00	.00	.00	.00	.01	.74	.00	.00	.29
	6	.007	39.858	.02	.00	.08	.00	.06	.05	.20	.04	.29	.09	.19
	7	.004	52.037	.01	.03	.08	.13	.11	.12	.02	.02	.03	.13	.02
	8	.004	55.049	.00	.03	.00	.20	.22	.02	.03	.02	.10	.21	.00
	9	.002	68.073	.13	.10	.09	.04	.03	.40	.11	.00	.21	.00	.06
	10	.001	88.283	.00	.02	.74	.38	.46	.40	.02	.00	.00	.00	.08
	11	.000	146.442	.84	.82	.00	.25	.12	.00	.01	.01	.17	.57	.00

a. Dependent Variable: 2014 Leaderboard

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.653[a]**	**.426**	**.331**	**.4782381**

a. Predictors: (Constant), Emotional Awareness of Self, Utilization of Emotions, Non-Verbal Awareness, Outlook

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	**4.077**	**4**	**1.019**	**4.457**	**.008[b]**
	Residual	**5.489**	**24**	**.229**		
	Total	**9.566**	**28**			

a. Dependent Variable: Creating Affirmative Environment

b. Predictors: (Constant), Emotional Awareness of Self, Utilization of Emotions, Non-Verbal Awareness, Outlook

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	**-.330**	**1.748**		**-.189**	**.852**		
	Outlook	**.791**	**.481**	**.379**	**1.643**	**.113**	**.450**	**2.220**
	Utilization of Emotions	**.693**	**.273**	**.464**	**2.540**	**.018**	**.716**	**1.397**
	Non-Verbal Awareness	**-.083**	**.304**	**-.052**	**-.273**	**.787**	**.671**	**1.491**
	Emotional Awareness of Self	**-.369**	**.415**	**-.177**	**-.889**	**.383**	**.602**	**1.662**

a. Dependent Variable: Creating Affirmative Environment

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Outlook	Utilization of Emotions	Non-Verbal Awareness	Emotional Awareness of Self
1	1	**4.988**	**1.000**	**.00**	**.00**	**.00**	**.00**	**.00**
	2	**.006**	**28.182**	**.01**	**.00**	**.71**	**.16**	**.01**
	3	**.003**	**38.535**	**.24**	**.00**	**.11**	**.70**	**.06**
	4	**.002**	**54.795**	**.70**	**.03**	**.00**	**.09**	**.60**
	5	**.001**	**67.277**	**.06**	**.97**	**.17**	**.05**	**.33**

a. Dependent Variable: Creating Affirmative Environment

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	**.877**[a]	**.768**	**.659**	**.3414570**

a. Predictors: (Constant), Years in Industry, Client Satisfaction, Positivity Affect, Level of Intra-team Communication, Emotional Awareness of Self, Gender Composition of Team, Utilization of Emotions, Non-Verbal Awareness, Outlook

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	**7.351**	**9**	**.817**	**7.005**	**.000**[b]
	Residual	**2.215**	**19**	**.117**		
	Total	**9.566**	**28**			

a. Dependent Variable: Creating Affirmative Environment

b. Predictors: (Constant), Years in Industry, Client Satisfaction, Positivity Affect, Level of Intra-team Communication, Emotional Awareness of Self, Gender Composition of Team, Utilization of Emotions, Non-Verbal Awareness, Outlook

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	.633	1.692		.374	.712		
	Outlook	-.383	.503	-.183	-.761	.456	.210	4.756
	Utilization of Emotions	1.153	.267	.772	4.312	.000	.380	2.633
	Non-Verbal Awareness	-.751	.282	-.467	-2.662	.015	.395	2.529
	Emotional Awareness of Self	-.103	.338	-.050	-.305	.763	.463	2.161
	Client Satisfaction	.003	.003	.117	.853	.404	.644	1.552
	Level of Intra-team Communication	-.040	.156	-.035	-.259	.798	.666	1.501
	Gender Composition of Team	-.545	.353	-.225	-1.542	.139	.572	1.748
	Positivity Affect	1.065	.427	.513	2.493	.022	.287	3.479
	Years in Industry	.051	.020	.456	2.509	.021	.369	2.710

a. Dependent Variable: Creating Affirmative Environment

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions (Constant)	Outlook	Utilization of Emotions	Non-Verbal Awareness	Emotional Awareness of Self	Client Satisfaction	Level of Intra-team Communication	Gender Composition of Team	Positivity Affect	Years in Industry
1	1	9.748	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.106	9.605	.00	.00	.00	.00	.00	.37	.01	.03	.00	.02
	3	.074	11.504	.00	.00	.00	.00	.00	.26	.10	.02	.00	.14
	4	.041	15.388	.00	.00	.00	.00	.00	.01	.63	.01	.00	.14
	5	.021	21.339	.00	.00	.03	.01	.00	.02	.00	.45	.00	.15
	6	.004	52.577	.01	.00	.38	.30	.00	.11	.16	.00	.05	.20
	7	.003	58.652	.08	.00	.16	.02	.29	.01	.04	.12	.06	.11
	8	.002	68.582	.03	.03	.17	.44	.01	.00	.00	.07	.26	.06
	9	.001	93.662	.81	.09	.00	.04	.25	.15	.02	.16	.00	.00
	10	.000	149.398	.08	.87	.26	.20	.45	.09	.03	.14	.63	.19

a. Dependent Variable: Creating Affirmative Environment